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PRELIMINARY DETERMINATION OF EPICENTERS

Monthly Listing

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DAY	ORIGIN TIME UTC HR MN SEC	GEOGRAPHIC COORDINATES LAT	LONG	DEPTH	MAGNITUDES GS MB	Msz	SD	NO. STA USED	REGION, CONTRIBUTED MAGNITUDES AND COMMENTS
01	01 37 39.8?	58.68 N	151.00 W	33 N	3.9		1.3	10	GULF OF ALASKA
01	04 49 59.6*	24.526 N	122.203 E	17			0.9	11	TAIWAN REGION
01	05 59 49.5*	39.956 N	24.059 E	10 G			0.5	5	AEGEAN SEA
01	06 45 44.4*	3.540 N	96.291 E	105			0.1	5	NORTHERN SUMATERA
01	08 35 43.5?	37.58 N	21.29 E	10 G	4.1		1.2	6	SOUTHERN GREECE. ML 3.7 (ATH).
01	08 52 13.2	61.704 N	147.399 W	55			0.9	22	SOUTHERN ALASKA
01	10 10 10.2	2.632 S	138.764 E	57	5.1		1.2	36	WEST IRIAN
01	10 41 55.5	22.336 S	176.931 W	121	5.2		0.9	51	SOUTH OF FIJI ISLANDS
01	11 04 52.6	2.835 S	138.554 E	60	5.1		1.2	29	WEST IRIAN
01	12 20 16.6?	63.53 S	170.11 E	10 G			1.7	7	BALLENY ISLANDS REGION
01	12 55 19.1	33.583 N	141.141 E	45	4.8		0.9	35	OFF EAST COAST OF HONSHU, JAPAN
01	13 08 10.9&	32.483 N	116.283 W	6 G				5	CALIFORNIA-MEXICO BORDER REGION. <PAS-P>. ML 3.2 (PAS).
01	14 39 47.4*	36.926 N	21.253 E	10 G	4.4		1.3	16	SOUTHERN GREECE. ML 4.0 (ATH).
01	16 08 23.7*	35.501 N	26.894 E	10 G			1.4	6	CRETE. ML 4.0 (ATH).
01	16 11 55.3	18.351 S	71.383 W	45	5.2		1.1	61	OFF COAST OF NORTHERN CHILE
01	17 26 48.7%	15.530 N	98.674 W	33 N			0.8	9	OFF COAST OF GUERRERO, MEXICO
01	23 02 23.3%	37.920 N	28.847 E	10 G			1.7	5	TURKEY
02	02 21 27.1%	37.718 N	29.346 E	10 G			0.5	8	TURKEY
02	03 00 49.0	23.065 S	69.002 W	96	5.0		1.0	29	NORTHERN CHILE
02	03 57 20.3*	13.825 S	76.398 W	33 N			1.4	7	NEAR COAST OF PERU
02	09 11 42.0?	12.36 N	125.37 E	33 N	4.5		1.2	9	SAMAR, PHILIPPINE ISLANDS
02	11 05 49.6	44.249 N	11.103 E	10 G			0.6	24	NORTHERN ITALY. ML 3.0 (FIR).
02	12 38 21.7	39.176 N	29.452 E	10 G	3.8		1.0	22	TURKEY
02	12 57 08.2*	26.894 S	26.672 E	5 G			1.8	10	REPUBLIC OF SOUTH AFRICA
02	13 49 07.7	30.489 S	68.479 W	92			0.9	9	SAN JUAN PROVINCE, ARGENTINA
02	13 50 11.0&	47.000 N	66.600 W	5 G				15	NEW BRUNSWICK. <OTT>. mbLg 4.1.
02	14 58 14.9*	42.432 N	24.240 E	10 G			1.2	7	BULGARIA
02	16 02 41.8	1.779 N	126.465 E	79	4.9		1.2	40	MOLUCCA PASSAGE
02	18 25 56.1*	4.945 N	96.331 E	50	3.9		1.3	10	NORTHERN SUMATERA
02	21 07 20.1	39.979 N	23.034 E	10 G			0.7	8	AEGEAN SEA
02	21 16 39.7*	28.256 N	139.524 E	431	4.3		0.4	10	BONIN ISLANDS REGION
03	00 50 50.7	15.096 S	168.151 E	33 N	5.5	5.2	1.1	103	VANUATU ISLANDS
	CMTS: (HRV) B040382A DATA: GDSN ; L.P. BODY WAVES: 10S, 27C, T= 45;								
	CENTROID LOCATION OT 0:50:55.7 0.5; LAT 15.01S 0.08; LON 167.81E 0.07; DEP 10.3 FIX; HALF-DURATION 2.0								
	MT: Scale 10**24 d-cm; MRR= 0.98 0.05; MTT=-0.03 0.07; MFF=-0.95 0.07; MRT=-0.77 0.16; MRF= 1.22 0.22; MTF= 0.37 0.06								
	PRINCIPAL AXES: (T) VAL= 1.74; PLG=62; AZM=229; (N) VAL= 0.06; PLG= 7; AZM=332; (P) VAL= -1.80; PLG=27; AZM= 66								
	BEST DOUBLE COUPLE: Mo= 1.8*10**24; NP1: STRIKE=173; DIP=19; SLIP= 112; NP2: STRIKE=330; DIP=72; SLIP= 83								
03	02 39 12.0	6.538 S	130.183 E	144	4.7		1.4	21	BANDA SEA
03	03 18 55.0	15.257 S	167.359 E	133	5.1		1.0	55	VANUATU ISLANDS
03	03 44 21.1*	24.826 N	122.355 E	26	5.3		1.4	12	TAIWAN REGION
03	07 33 23.0*	2.348 N	128.702 E	36	4.6		0.7	12	HALMAHERA
03	07 55 54.1	22.31& N	94.388 E	88	4.8		0.6	42	BURMA
03	10 26 03.3	40.010 N	76.285 E	33 N	4.5		0.8	9	KIRGHIZ-SINKIANG BORDER REGION
03	11 08 02.3*	7.788 S	128.456 E	178	4.7		1.5	8	BANDA SEA
03	12 16 14.1*	7.592 S	128.168 E	177	4.4		1.2	8	BANDA SEA
03	16 03 14.5*	43.121 N	2.158 W	10 G			1.1	7	SPAIN
03	19 03 25.5	32.220 S	70.986 W	111			1.0	9	CHILE-ARGENTINA BORDER REGION
03	19 20 59.2*	18.104 S	175.255 W	210	4.6		1.1	19	TONGA ISLANDS
03	21 43 38.8*	42.026 N	142.678 E	71	4.6		1.0	16	HOKKAIDO, JAPAN REGION
03	23 47 24.0*	24.676 N	122.122 E	19			0.4	8	TAIWAN REGION
04	00 32 17.0%	39.301 N	29.166 E	10 G			1.5	8	TURKEY
04	04 07 48.2*	6.136 N	126.926 E	204	4.2		0.8	16	MINDANAO, PHILIPPINE ISLANDS
04	04 27 07.6*	9.127 S	110.519 E	94	4.7		0.9	14	SOUTH OF JAVA
04	06 25 28.0*	21.972 S	68.596 W	97	4.3		0.7	12	CHILE-BOLIVIA BORDER REGION
04	09 09 33.8%	39.103 N	28.408 E	10 G			1.6	6	TURKEY
04	10 36 45.6	39.885 N	24.555 E	17	4.2		1.0	39	AEGEAN SEA. ML 4.2 (ATH).
04	12 49 15.1%	39.129 N	28.279 E	10 G			1.4	11	TURKEY
04	12 53 40.1%	15.075 N	61.272 W	33 N			0.6	10	LEEWARD ISLANDS
04	13 11 24.2%	15.076 N	61.264 W	33 N			0.3	6	LEEWARD ISLANDS

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04   17 19 22.4   43.868 N    7.770 E   16                    0.6   12  NEAR SOUTH COAST OF FRANCE
04   23 03 37.1* 39.554 N   10.527 W   10 G  5.3             0.8   30  NORTH ATLANTIC OCEAN. Felt (I) in the Porto, Portugal
                                                                        area.
04   23 40 07.5? 52.88  N  171.34  W  101     4.3             0.8   17  FOX ISLANDS, ALEUTIAN ISLANDS
05   00 14 29.4% 15.081 N   61.260 W   33 N                   0.3    6  LEEWARD ISLANDS
05   00 32 12.3   24.543 S  180.000 E  518     4.8           0.9   32  SOUTH OF FIJI ISLANDS
05   00 40 24.2*  3.465 S  139.745 E   33 N  5.5             1.3    9  WEST IRIAN
05   01 12 40.1   6.736 N   72.982 W  173     4.1           0.9   16  NORTHERN COLOMBIA
05   01 14 54.5% 33.517 N  118.933 W   19 G                          10  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.9 (PAS). Felt at
                                                                        Santa Monica and Marina Del Rey.
05   01 48 14.2? 21.80  S  114.21  W   10 G  4.8 4.6         0.9   20  EASTER ISLAND CORDILLERA
05   02 05 01.1   15.044 N   61.419 W   19    4.5            1.3   26  LEEWARD ISLANDS. Felt (V) on Dominica and (IV) on
                                                                        Martinique.
05   02 19 44.5   27.419 N   88.864 E   33 N  5.1 4.7         0.9  100  SIKKIM. Felt in the Gangtok area.
05   02 31 37.3% 15.072 N   61.247 W   33 N                   0.5    8  LEEWARD ISLANDS
05   02 43 58.8   7.510 N   94.035 E   33 N  5.1 4.9         1.4   53  NICOBAR ISLANDS REGION
05   03 36 50.1   37.546 N   26.745 E   10 G                  1.1   14  DODECANESE ISLANDS. ML 3.8 (ATH).
05   04 33 29.3   33.690 N  132.367 E   65    4.6            1.3   17  SHIKOKU, JAPAN
05   05 29 45.1   7.402 N   93.830 E   33 N  4.8             0.9   29  NICOBAR ISLANDS REGION
05   06 58 09.9? 30.75  S   71.35  W   33 N                   0.9    5  NEAR COAST OF CENTRAL CHILE
05   07 09 06.1   31.508 S   69.352 W  136                    0.8    9  SAN JUAN PROVINCE, ARGENTINA
05   07 50 29.2*  15.529 S  172.109 W   33 N  4.7             1.0   32  SAMOA ISLANDS REGION
05   09 07 59.9   15.120 S  168.129 E   33 N  5.4             1.1   71  VANUATU ISLANDS
   CMTS:  (HRV) B040582A   DATA:  GDSN            ;  L.P. BODY WAVES:  9S, 25C, T= 45;
   CENTROID LOCATION   OT  9: 8: 2.7 1.2;  LAT 14.64S 0.14;  LON 167.89E 0.15;  DEP  16.3 6.4;        HALF-DURATION  2.1
   MT: Scale 10**23 d-cm; MRR= 6.55 0.52; MTT=-0.23 0.73; MFF=-6.33 0.70; MRT= 0.91 1.55; MRF= 3.08 2.52; MTF= 0.92 0.58
   PRINCIPAL AXES:  (T) VAL=  7.41; PLG=75; AZM=303;  (N) VAL= -0.31; PLG= 9; AZM=176;  (P) VAL= -7.10;  PLG=12; AZM= 84
   BEST DOUBLE COUPLE:       Mo= 7.3*10**23;   NP1:  STRIKE=162; DIP=34; SLIP=  73;   NP2:  STRIKE=  2; DIP=58; SLIP=-101
05   11 13 36.9% 33.533 N  118.917 W    6 G                          7  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.4 (PAS).
05   11 51 23.8   46.138 N   13.519 E   10 G                  1.3    8  AUSTRIA. ML 3.6 (GRF).
05   11 54 44.2? 27.39  N  112.26  W   10 G  4.6             0.9   23  BAJA CALIFORNIA
05   12 21 34.0?  3.30  S  177.35  E   33 N  4.7             0.6   18  GILBERT ISLANDS REGION
05   13 02 16.1*  38.218 N   23.183 E   10 G                  1.1    9  GREECE. ML 3.3 (ATH).
05   13 10 13.6% 33.550 N  118.917 W    8 G                          7  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
05   13 29 12.1*  38.282 N   23.303 E   10 G                  1.3   13  GREECE. ML 3.7 (ATH).
05   15 33 38.0%  15.076 N   61.261 W   33 N                  0.4   10  LEEWARD ISLANDS
05   18 10 19.0%  15.066 N   61.329 W   33 N                  0.9   10  LEEWARD ISLANDS
05   18 35 12.2*  28.743 S   68.722 W  129                    0.8    7  LA RIOJA PROVINCE, ARGENTINA
05   19 31 16.0?  50.95  N  177.84  W   33 N  4.3             1.4    8  ANDREANOF ISLANDS, ALEUTIAN IS.
05   19 49 30.7%  15.090 N   61.232 W   33 N                  0.6   10  LEEWARD ISLANDS
05   22 31 59.4*  7.044 N   94.165 E   33 N  4.7             1.5    9  NICOBAR ISLANDS REGION
06   03 09 25.0%  39.166 N   28.190 E   10 G                  1.3    9  TURKEY
06   05 17 29.9*  42.073 N  142.350 E   33 N  4.5             0.9   10  HOKKAIDO, JAPAN  REGION
06   05 44 53.1   24.250 N   94.413 E   96    4.6            1.2   13  BURMA-INDIA BORDER REGION
06   12 15 20.4   19.969 S  177.917 W  569    4.7            0.9   23  FIJI ISLANDS REGION
06   15 49 49.5   14.239 N   92.060 W   64    5.3            1.0  197  NEAR COAST OF CHIAPAS, MEXICO. Ms 5.5 (BRK). Felt in
                                                                        the Guatemala-El Salvador area.
06   16 08 01.8   14.224 N   91.948 W   62    4.8            0.7   24  GUATEMALA
06   16 25 28.0   26.325 S   27.389 E   24                    1.3   12  REPUBLIC OF SOUTH AFRICA
06   17 24 28.7*  18.018 N  105.100 W   33 N  4.7             1.0   23  OFF COAST OF JALISCO, MEXICO
06   19 56 53.4   14.315 N   92.082 W   65    6.0 6.5        1.0  281  NEAR COAST OF CHIAPAS, MEXICO. Ms 6.8 (BRK), mb 6.3
                                                                        (PAS). Felt (IV) in Chiapas, Guatemala and El Salvador.
       FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=155;  DIP=60;  SLIP= 112.   NP2:  STRIKE=296;  DIP=37;  SLIP= 57
       PRINCIPAL AXES:   (T)  PLG=67;  AZM=108.   (P)  PLG=12;  AZM=229
                                                                        Moderately well controlled reverse fault type mechanism
                                                                        with a small component of left lateral strike-slip. NP2
                                                                        designated as the fault plane.
   CMTS:  (HRV) C040682A   DATA:  GDSN            ;  L.P. BODY WAVES:  20S, 59C, T= 45;   MANTLE WAVES:  11S, 32C, T=135
   CENTROID LOCATION   OT 19:56:56.0 0.2;  LAT 13.79N 0.02;  LON  91.95W 0.02;  DEP  42.6 0.9;        HALF-DURATION  5.0
   MT: Scale 10**26 d-cm; MRR= 1.23 0.02; MTT=-0.87 0.02; MFF=-0.37 0.02; MRT= 0.60 0.03; MRF=-0.65 0.03; MTF= 0.35 0.01
   PRINCIPAL AXES:  (T) VAL=  1.55; PLG=70; AZM= 56;  (N) VAL= -0.22; PLG= 7; AZM=305;  (P) VAL= -1.33;  PLG=18; AZM=213
   BEST DOUBLE COUPLE:       Mo= 1.4*10**26;   NP1:  STRIKE=290; DIP=27; SLIP=  74;   NP2:  STRIKE=129; DIP=64; SLIP= 98
06   22 08 37.1*  18.961 S  174.619 W  194     5.0           1.2   15  TONGA ISLANDS
07   00 27 21.5*  51.456 N  176.198 W   53    4.4            1.0   35  ANDREANOF ISLANDS, ALEUTIAN IS.
07   01 20 39.9%  39.438 N   27.813 E   10 G                  1.2    7  TURKEY
07   02 31 38.3   34.721 N  140.704 E   57    4.8            0.8   42  NEAR EAST COAST OF HONSHU, JAPAN
07   02 46 35.1%  38.971 N   28.030 E   11                    0.7    6  TURKEY
07   03 24 20.9   31.399 N  138.396 E  333    4.7            1.1   45  SOUTH OF HONSHU, JAPAN
07   09 21 38.7   3.077 S  142.078 E   14    5.2             1.1   65  NEAR N COAST OF PAPUA NEW GUINEA
07   11 52 03.0   2.499 S   78.557 W   88    5.2             1.0  102  ECUADOR
07   13 33 36.1   19.070 N  145.566 E  175    5.2            1.1  101  MARIANA ISLANDS
07   13 57 26.8   20.497 S  178.368 W  555    5.0            1.1   38  FIJI ISLANDS REGION
07   18 02 06.2?  32.81  S   71.61  W   33 N                  0.9    5  NEAR COAST OF CENTRAL CHILE
07   19 20 52.4   10.664 N   85.782 W   67    5.3            1.1  201  COSTA RICA. Ms 5.4 (BRK), 5.2 (PAS).
08   02 14 19.5%  37.078 N   28.646 E   10 G                  0.4    5  TURKEY
08   02 41 17.6   18.519 N   86.276 E   24 D  5.5 4.8        0.9  138  BAY OF BENGAL
   CMTS:  (HRV) B040882A   DATA:  GDSN            ;  L.P. BODY WAVES:  11S, 32C, T= 45;
   CENTROID LOCATION   OT  2:41:18.7 1.7;  LAT 18.01N 0.16;  LON  85.84E 0.13;  DEP  31.711.1;        HALF-DURATION  2.0
   MT: Scale 10**23 d-cm; MRR= 5.50 0.55; MTT=-5.83 0.87; MFF= 0.33 0.69; MRT= 1.53 1.35; MRF= 1.99 1.27; MTF= 4.53 0.63
   PRINCIPAL AXES:  (T) VAL=  6.96; PLG=60; AZM=301;  (N) VAL=  1.28; PLG=30; AZM=116;  (P) VAL= -8.24;  PLG= 2; AZM=207
   BEST DOUBLE COUPLE:       Mo= 7.6*10**23;   NP1:  STRIKE=325; DIP=51; SLIP= 131;   NP2:  STRIKE= 91; DIP=54; SLIP= 51
08   03 15 33.0% 31.867 N  115.667 W    6 G                          4  BAJA CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
08   03 54 12.6% 39.453 N  123.363 W    5 G                         15  NEAR COAST OF NORTHERN CALIF. <BRK>. ML 3.0 (BRK). Felt
                                                                        (IV) at Willits. Felt (III) at Potter Valley and Ukiah.
08   04 43 14.3%  40.142 N   28.650 E   10 G                  0.9   11  TURKEY
08   04 45 31.4   38.012 N   20.745 E   10 G  4.6             1.5   47  GREECE. ML 4.9 (TIR), 4.1 (ATH). Felt on Zakinthos.
08   05 58 51.9   24.795 S   58.096 W   33 N  5.1             1.2   42  PARAGUAY. Minor damage in the Asuncion area.
08   06 33 36.4   38.765 N   24.914 E   10 G                  0.8   11  AEGEAN SEA. ML 3.3 (ATH).
08   11 40 30.3   20.614 S  174.131 W   41 D  5.5 5.2        1.2  128  TONGA ISLANDS
   CMTS:  (HRV) B040882B   DATA:  GDSN            ;  L.P. BODY WAVES:  11S, 32C, T= 45;
   CENTROID LOCATION   OT 11:40:36.5 0.8;  LAT 20.58S 0.08;  LON 176.07W 0.07;  DEP  14.2 FIX;        HALF-DURATION  6.0
   MT: Scale 10**24 d-cm; MRR= 1.19 0.05; MTT=-0.22 0.08; MFF=-0.97 0.08; MRT= 0.12 0.14; MRF= 0.96 0.15; MTF=-0.49 0.06
   PRINCIPAL AXES:  (T) VAL=  1.55; PLG=69; AZM=264;  (N) VAL= -0.02; PLG= 9; AZM= 19;  (P) VAL= -1.53;  PLG=19; AZM=112
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   BEST DOUBLE COUPLE:       Mo= 1.5*10**24;   NP1:  STRIKE=217; DIP=27; SLIP= 110;   NP2:  STRIKE= 15; DIP=65; SLIP=  80
08   13 38 44.7Z 23.943 N  121.052 E   35 N                1.2    7  TAIWAN
08   13 48 17.7*  8.123 S  107.969 E   80     4.9          0.4   11  JAVA
08   14 04 21.3  23.906 N  121.653 E   22     4.1          0.9   14  TAIWAN
08   15 03 04.0& 34.183 N  118.650 W    4 G                       8  SOUTHERN CALIFORNIA. <PAS-P>. ML 2.6 (PAS). Felt at
                                                                     Woodland Hills.
08   17 42 37.0  29.635 S   71.430 W   56     5.1          1.4   18  NEAR COAST OF CENTRAL CHILE
08   19 49 40.9  38.442 N   27.365 E   10 G                 0.9   25  TURKEY. ML 3.7 (ATH).
08   21 34 16.9   7.432 N   93.954 E   33 N  5.2 4.9       0.9   92  NICOBAR ISLANDS REGION
08   23 56 52.6* 36.817 S   72.422 W   33 N  4.8           1.2   13  NEAR COAST OF CENTRAL CHILE
09   01 50 19.5   5.055 N   82.637 W   10 G  4.7           1.1   28  SOUTH OF PANAMA
09   01 52 35.7* 26.800 S   26.603 E    5 G  4.5           1.9   10  REPUBLIC OF SOUTH AFRICA
09   02 33 58.7? 17.83  S   27.01  E   33 N                1.2    7  ZIMBABWE
09   03 02 28.0& 40.859 N   27.960 E   10 G                 0.7    7  TURKEY
09   03 05 06.2  72.476 N    2.187 E   10 G  4.6           1.0   39  NORWEGIAN SEA
09   03 23 21.0& 40.589 N   27.200 E   10 G                 0.7    5  TURKEY
09   07 54 01.1* 13.232 N   91.952 W   33 N  4.5           0.6    9  NEAR COAST OF GUATEMALA
09   08 25 12.2  47.101 N   14.666 E   10 G                 1.2   14  AUSTRIA. ML 3.5 (GRF). Felt (V) in the Judenburg area.
09   11 51 01.3  26.484 N  126.245 E  131     5.5          1.0  171  RYUKYU ISLANDS
   CMTS:  (HRV) B040982A   DATA:  GDSN          ; L.P. BODY WAVES:  11S, 30C, T= 45;
   CENTROID LOCATION   OT 11:51: 5.3 0.4;  LAT 25.99N 0.04;  LON 126.44E 0.05;  DEP  14.9 2.0;        HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR=-1.12 0.06; MTT= 0.65 0.11; MFF= 0.47 0.11; MRT=-0.37 0.06; MRF=-0.74 0.06; MTF=-1.11 0.09
   PRINCIPAL AXES:  (T) VAL=  1.70; PLG= 5; AZM= 44;   (N) VAL= -0.01; PLG=35; AZM=138;   (P) VAL= -1.69;  PLG=55; AZM=307
   BEST DOUBLE COUPLE:       Mo= 1.7*10**24;   NP1:  STRIKE=103; DIP=50; SLIP=-138;   NP2:  STRIKE=343; DIP=59; SLIP= -48
09   11 58 15.6  27.372 N  141.749 E   56     4.7          0.7   26  BONIN ISLANDS REGION
09   15 36 46.7& 37.613 N  118.907 W    6 G                       10  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.0 (BRK).
09   23 24 58.6  63.935 N  148.820 W   10 G                 0.7   14  CENTRAL ALASKA. ML 2.9 (PMR).
09   23 41 43.2  41.383 N  142.139 E   72     4.9          1.0   45  HOKKAIDO, JAPAN  REGION
10   01 43 39.3   3.291 S  177.483 E   33 N  5.1           0.8   53  GILBERT ISLANDS REGION
10   02 19 33.2*  3.070 S  130.397 E   33 N  4.6           1.3   11  CERAM
10   03 53 29.6* 36.440 N   70.331 E  180     4.2          0.8   10  HINDU KUSH REGION
10   04 50 53.9  39.984 N   24.498 E   26     4.8 4.9      1.3  111  AEGEAN SEA. ML 5.1 (ATH), 5.0 (TIR). Felt on Thasos and
                                                                     in the Kavalla area.
10   06 47 51.9  33.910 S   58.027 E   10 G  5.6 5.4       1.2  128  SOUTH INDIAN OCEAN
   CMTS:  (HRV) B041082A   DATA:  GDSN          ; L.P. BODY WAVES:  12S, 32C, T= 45;
   CENTROID LOCATION   OT  6:47:54.3 0.6;  LAT 34.33S 0.07;  LON  58.33E 0.06;  DEP  10.0 FIX;        HALF-DURATION  2.4
   MT: Scale 10**24 d-cm; MRR=-1.57 0.07; MTT= 1.95 0.10; MFF=-0.38 0.07; MRT= 1.45 0.25; MRF= 0.74 0.19; MTF=-0.73 0.07
   PRINCIPAL AXES:  (T) VAL=  2.54; PLG=18; AZM= 10;   (N) VAL= -0.03; PLG=26; AZM=271;   (P) VAL= -2.51;  PLG=58; AZM=130
   BEST DOUBLE COUPLE:       Mo= 2.5*10**24;   NP1:  STRIKE=133; DIP=36; SLIP= -41;   NP2:  STRIKE=259; DIP=67; SLIP=-118
10   07 00 08.8  33.832 S   58.078 E   10 G  5.6 5.2       1.0  137  SOUTH INDIAN OCEAN
10   08 44 42.6* 39.973 N   24.378 E   10 G                 1.0    8  AEGEAN SEA
10   09 00 41.1   4.252 N   73.961 W   33 N                 0.7    5  COLOMBIA. Felt at Villavicencio.
10   09 47 04.4   7.135 N   35.752 W   10 G  5.0 5.0       0.9   72  CENTRAL MID-ATLANTIC RIDGE
10   10 02 46.6   6.782 S  143.806 E   33 N  3.2           0.9    7  PAPUA NEW GUINEA
10   10 46 07.4& 15.076 N   61.259 W   33 N                 0.5   10  LEEWARD ISLANDS
10   11 38 04.2  39.397 N   25.533 E   10 G  4.6 4.1       1.0  106  AEGEAN SEA. ML 4.6 (ATH), 4.5 (TIR).
10   13 17 11.3  42.003 N  142.556 E   46     4.5          0.9   25  HOKKAIDO, JAPAN  REGION
10   16 25 33.5  17.380 N   83.499 W   10 G  5.7 5.9       1.2  195  CARIBBEAN SEA. Ms 5.6 (PAS). Damage on Swan Island.
   CMTS:  (HRV) B041082B   DATA:  GDSN          ; L.P. BODY WAVES:  18S, 52C, T= 45;
   CENTROID LOCATION   OT 16:25:44.2 0.3;  LAT 17.72N 0.03;  LON  83.40W 0.03;  DEP  10.0 FIX;        HALF-DURATION  5.0
   MT: Scale 10**25 d-cm; MRR=-0.30 0.07; MTT=-0.76 0.10; MFF= 1.06 0.11; MRT=-1.29 0.27; MRF= 1.22 0.30; MTF= 3.15 0.07
   PRINCIPAL AXES:  (T) VAL=  3.44; PLG= 4; AZM=306;   (N) VAL=  0.54; PLG=64; AZM=209;   (P) VAL= -3.98;  PLG=26; AZM= 38
   BEST DOUBLE COUPLE:       Mo= 3.7*10**25;   NP1:  STRIKE= 79; DIP=70; SLIP= -16;   NP2:  STRIKE=175; DIP=75; SLIP=-159
10   18 06 15.0& 14.832 N   96.688 W   33 N                 1.2   11  OFF COAST OF OAXACA, MEXICO
10   18 38 44.5& 39.600 N   28.880 E   10 G                 1.7   10  TURKEY
10   20 31 43.1* 23.521 N  121.825 E   33 N                 1.0   10  TAIWAN
10   21 24 36.9  21.032 S  176.300 W  162     5.6          1.0  147  FIJI ISLANDS REGION
10   21 51 07.0   9.167 S  113.434 E   33 N  4.7           0.7   15  SOUTH OF JAVA
11   00 53 08.3* 3.532 N   78.873 W   33 N  4.5           1.1   18  SOUTH OF PANAMA
11   02 49 38.4? 41.12  N  121.94  W    5 G                 0.8    7  NORTHERN CALIFORNIA. ML 3.3 (BRK).
11   04 10 32.1* 52.091 N  170.340 E   33 N  4.5           0.8   26  NEAR ISLANDS, ALEUTIAN ISLANDS
11   04 47 18.2* 35.909 N   27.489 E   33 N  4.1           1.7   11  DODECANESE ISLANDS. ML 4.7 (ATH).
11   05 30 29.0& 36.622 N  121.318 W    8 G                       12  CENTRAL CALIFORNIA. <BRK>. ML 3.3 (BRK).
11   06 11 46.3? 0.27  S   92.09  W   10 G  4.4           1.2    5  GALAPAGOS ISLANDS REGION
11   07 01 14.0* 33.546 S   71.663 W   33 N                 1.3    7  NEAR COAST OF CENTRAL CHILE
11   08 19 05.8? 51.55  N   30.32  W   10 G  4.4 3.8       1.4    9  NORTH ATLANTIC RIDGE
11   11 18 48.7* 2.738 S  129.405 E   33 N  4.7           1.2   11  CERAM
11   11 29 04.9* 39.573 N   23.843 E   10 G                 0.8    9  AEGEAN SEA
11   12 21 29.0   2.948 S   78.643 W   33 N  5.4           1.1  100  ECUADOR
11   12 42 49.6* 38.017 N   19.784 E   10 G  4.1           0.8   12  IONIAN SEA. ML 3.7 (ATH), 3.6 (LCI).
11   12 51 55.2  43.290 N   20.909 E   12     4.5          1.1   62  YUGOSLAVIA. Felt in the Brus-Svetozarevo area.
11   12 59 18.9* 22.162 S   71.799 W    7     5.0          1.1   34  OFF COAST OF NORTHERN CHILE
11   13 20 01.8* 38.504 N   22.300 E   10 G                 1.0    9  GREECE. ML 3.1 (ATH).
11   15 03 27.8  62.187 N  148.813 W   79                   0.7   23  CENTRAL ALASKA. Felt (I) at Palmer.
11   18 00 51.4& 47.000 N   66.600 W    5 G                      11  NEW BRUNSWICK. <OTT>. mbLg 4.0. Felt (III) at Caribou,
                                                                     Maine. Also felt at Easton, Limestone and Van Buren,
                                                                     Maine.
11   19 06 54.9? 35.04  N   21.61  E   33 N  3.9           1.0   15  MEDITERRANEAN SEA. ML 3.8 (ATH).
11   19 13 21.1* 13.704 N   91.936 W   64     4.5          1.4   19  NEAR COAST OF GUATEMALA
11   19 19 54.4  36.409 N   70.829 E  197     4.8          0.7   72  HINDU KUSH REGION. Felt (III) at Khorog and Dshirgatal,
                                                                     USSR.
11   20 21 44.8* 41.873 N    2.980 E   10 G                 1.3    8  SPAIN. ML 3.1 (LDG).
11   20 57 40.6* 38.200 N   23.282 E   10 G                 0.7    8  GREECE. ML 3.1 (ATH).
11   22 01 57.4   0.353 N  125.317 E   71     4.8          1.3   25  MOLUCCA PASSAGE
11   22 04 32.7? 5.34  S  151.28  E  127                   0.7    5  NEW BRITAIN REGION
11   22 18 10.0* 34.721 N   21.830 E   33 N  4.0           1.0   27  MEDITERRANEAN SEA. ML 3.8 (ATH).
11   23 26 57.8* 9.795 S  118.697 E   33 N  4.2           1.2   11  SUMBAWA ISLAND REGION
11   23 41 10.4* 40.837 N   15.368 E   33 N                 1.6   10  SOUTHERN ITALY. ML 2.9 (ORI).
11   23 46 04.0* 24.862 N  122.444 E   22     4.4          1.0   10  TAIWAN REGION
12   00 34 44.3  30.185 S  177.890 W   35 D  5.7 6.1       1.2  188  KERMADEC ISLANDS. Ms 6.2 (BRK), 5.7 (PAS).
   CMTS:  (HRV) B041282A   DATA:  GDSN          ; L.P. BODY WAVES:  17S, 50C, T= 45;
   CENTROID LOCATION   OT  0:34:55.3 0.3;  LAT 29.91S 0.03;  LON 177.85W 0.02;  DEP  30.6 1.7;        HALF-DURATION  4.5
   MT: Scale 10**25 d-cm; MRR= 1.70 0.03; MTT= 0.20 0.04; MFF=-1.90 0.05; MRT=-0.16 0.07; MRF= 1.34 0.11; MTF=-0.71 0.04
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PRINCIPAL AXES: (T) VAL= 2.22; PLG=67; AZM=240; (N) VAL= 0.27; PLG=15; AZM= 9; (P) VAL= -2.50; PLG=17; AZM=104
BEST DOUBLE COUPLE: Mo= 2.4*10**25; NP1: STRIKE=215; DIP=31; SLIP= 120; NP2: STRIKE= 2; DIP=63; SLIP= 73

12 01 33 08.2 46.765 N 154.061 E 38 D 5.5 5.5 0.8 168 KURIL ISLANDS REGION
12 01 54 23.7* 46.849 N 153.943 E 33 N 4.9 1.1 45 KURIL ISLANDS
12 02 04 02.4& 19.329 N 155.112 W 9 G 4.6 19 HAWAII. <HVO-P>. ML 4.4 (HVO). Felt on the southeastern part of the island.
12 03 39 29.7 40.616 N 23.650 E 13 4.1 1.3 23 GREECE. ML 4.0 (ATH), 3.9 (TIR). Felt in the Thessaloniki-Khalkidhiki area.
12 04 26 04.8* 40.540 N 23.542 E 10 G 0.7 5 GREECE
12 05 02 14.8? 15.51 N 90.07 W 33 N 0.9 11 GUATEMALA
12 06 49 06.5 41.784 N 141.776 E 73 5.2 1.0 84 HOKKAIDO, JAPAN REGION
12 08 20 35.4 7.242 S 123.066 E 555 4.8 0.9 47 BANDA SEA
12 09 33 43.9* 42.234 N 142.588 E 33 N 4.3 1.4 14 HOKKAIDO, JAPAN REGION
12 10 06 04.5* 43.121 N 2.046 W 10 G 1.1 12 SPAIN
12 10 33 31.4 17.809 N 145.705 E 193 4.9 1.1 67 MARIANA ISLANDS
12 11 20 30.4* 43.001 N 1.877 W 10 G 0.8 8 PYRENEES. ML 2.7 (LDG).
12 11 31 37.6 2.398 N 128.514 E 240 5.3 1.1 91 HALMAHERA
12 12 45 36.7? 51.51 N 15.97 E 10 G 0.7 8 POLAND. ML 3.4 (GRF).
12 14 02 28.4? 13.51 N 91.82 W 33 N 4.5 1.0 13 NEAR COAST OF GUATEMALA
12 16 07 39.0? 56.17 S 27.32 W 33 N 5.0 1.3 9 SOUTH SANDWICH ISLANDS REGION
12 16 30 23.5* 41.896 N 3.003 E 10 G 1.1 8 SPAIN. ML 3.0 (LDG).
12 17 00 19.6* 23.975 N 122.414 E 10 G 1.0 9 TAIWAN REGION
12 17 36 26.7* 35.714 N 140.018 E 72 4.6 0.6 9 NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at Utsunomiya, Yokohama and Ajiro.
12 18 22 56.7* 35.690 N 141.878 E 33 N 4.5 1.1 9 NEAR EAST COAST OF HONSHU, JAPAN
12 19 21 47.5* 39.031 N 25.187 E 10 G 1.4 5 AEGEAN SEA. ML 3.5 (ATH).
12 19 56 01.8& 16.958 N 61.556 W 33 N 0.9 9 LEEWARD ISLANDS
12 21 49 51.7* 42.060 N 142.638 E 33 N 5.0 4.1 0.9 40 HOKKAIDO, JAPAN REGION
12 21 55 17.7* 42.195 N 142.680 E 33 N 4.6 0.9 15 HOKKAIDO, JAPAN REGION
12 22 14 31.0* 40.024 N 74.813 W 5 G 0.5 9 NEW JERSEY. mbLg 2.8 (PAL). Felt (V) at Croyden, Pennsylvania. Felt (IV) at Hainesport, Maple Shade, Pemberton, Rancocas and Riverton, New Jersey. Felt in Camden, Burlington and Mercer counties, New Jersey, Bucks and Montgomery counties, Pennsylvania.
13 00 55 24.5* 11.006 S 117.739 E 33 N 3.9 1.1 9 SOUTH OF SUMBAWA ISLAND
13 01 14 19.8* 12.597 N 89.641 W 59 4.3 1.1 17 OFF COAST OF CENTRAL AMERICA. Felt (II) at San Salvador, El Salvador.
13 01 37 46.9 2.153 S 133.492 E 33 N 4.2 1.2 10 WEST IRIAN REGION
13 02 12 02.9* 34.186 N 25.305 E 37 4.1 1.1 34 CRETE. ML 4.1 (ATH).
13 02 25 09.4 37.333 N 69.198 E 33 N 4.6 1.3 9 AFGHANISTAN-USSR BORDER REGION. Felt (III) at Parkhar, USSR.
13 03 30 01.6* 2.428 N 66.581 E 10 G 4.6 1.1 14 CARLSBERG RIDGE
13 08 14 03.4* 15.707 N 98.586 W 10 G 4.7 1.1 23 OFF COAST OF GUERRERO, MEXICO
13 08 37 15.4* 31.752 N 131.728 E 33 N 4.6 1.0 18 KYUSHU, JAPAN
13 09 25 19.0* 34.291 N 81.381 W 5 G 0.4 5 SOUTH CAROLINA. mbLg 2.7. Felt (III) at Jenkinsville and Little Mountain.
13 09 31 38.2 12.209 N 143.047 E 73 5.4 1.0 118 SOUTH OF MARIANA ISLANDS. Felt (II) on Guam.
CMTS: (HRV) E041382A DATA: GDSN ; L.P. BODY WAVES: 11S, 24C, T= 45;
CENTROID LOCATION OT 9:31:38.5 0.4; LAT 12.15N 0.03; LON 143.30E 0.05; DEP 43.2 3.6; HALF-DURATION 2.0
MT: Scale 10**24 d-cm; MRR=-0.41 0.14; MTT= 4.02 0.19; MFF=-3.61 0.23; MRT= 1.69 0.31; MRF=-3.10 0.29; MTF= 0.61 0.19
PRINCIPAL AXES: (T) VAL= 4.62; PLG=21; AZM= 4; (N) VAL= 1.08; PLG=50; AZM=121; (P) VAL= -5.70; PLG=32; AZM=260
BEST DOUBLE COUPLE: Mo= 5.2*10**24; NP1: STRIKE= 46; DIP=51; SLIP=-171; NP2: STRIKE=310; DIP=83; SLIP= -39
13 11 02 12.2& 34.050 N 118.967 W 17 G 4.2 25 SOUTHERN CALIFORNIA. <PAS-P>. ML 3.9 (PAS). Felt (V) at Agoura, Camarillo and Malibu. Felt (IV) at Canoga Park, Chatsworth, Santa Monica, Somis and Thousand Oaks. Also felt at El Segundo, Lynwood, Westlake Village and Woodland Hills.
13 11 26 47.2 27.926 S 26.783 E 5 G 5.0 1.1 44 REPUBLIC OF SOUTH AFRICA. One person killed and 20 injured in rock slides in a gold mine near Welkom.
13 13 26 48.4* 60.2?8 S 27.075 W 33 N 4.9 1.2 18 SOUTH SANDWICH ISLANDS REGION
13 15 00 42.2& 33.900 N 117.967 W 12 G 7 SOUTHERN CALIFORNIA. <PAS-P>. ML 2.2 (PAS). Felt at Fullerton.
13 17 27 01.0* 23.773 S 179.912 W 522 4.1 1.1 12 SOUTH OF FIJI ISLANDS
13 18 19 31.2* 31.099 S 178.985 W 121 4.9 1.3 12 KERMADEC ISLANDS REGION
13 18 57 47.2* 13.659 N 92.752 W 33 N 4.2 3.6 1.1 13 OFF COAST OF CHIAPAS, MEXICO
13 19 02 26.6* 43.511 N 19.355 E 10 G 0.3 5 YUGOSLAVIA
13 19 57 21.8 22.164 S 70.104 W 62 4.8 1.0 20 NEAR COAST OF NORTHERN CHILE
13 22 24 25.9? 3.23 S 177.40 E 33 N 4.5 0.5 14 GILBERT ISLANDS REGION
13 23 07 24.9* 43.220 N 19.886 E 10 G 1.1 5 YUGOSLAVIA
14 00 22 24.6& 15.085 N 61.244 W 33 N 0.4 5 LEEWARD ISLANDS
14 00 23 03.1& 15.088 N 61.240 W 33 N 0.4 5 LEEWARD ISLANDS
14 00 34 13.7* 28.678 S 69.577 W 95 4.6 1.2 25 CHILE-ARGENTINA BORDER REGION
14 01 29 32.0? 4.36 N 125.42 E 139 4.1 1.1 10 TALAUD ISLANDS
14 02 39 41.5 31.814 S 67.713 W 46 4.4 1.3 14 SAN JUAN PROVINCE, ARGENTINA
14 03 26 19.5* 47.184 N 7.112 E 10 G 0.9 11 SWITZERLAND
14 03 45 10.7 6.858 S 155.787 E 100 D 5.2 0.9 67 SOLOMON ISLANDS
14 06 36 56.7 36.785 N 105.550 E 33 4.9 4.6 1.0 47 NORTHERN CHINA. Slight damage in the Gansu-Ningxia border region.
14 06 43 38.4* 22.989 S 66.525 W 236 4.6 1.2 10 JUJUY PROVINCE, ARGENTINA
14 07 06 00.1* 55.461 S 27.327 W 33 N 5.0 0.5 10 SOUTH SANDWICH ISLANDS REGION
14 07 22 43.4& 47.647 N 122.516 W 26 G 14 WASHINGTON. <SEA>. ML 3.1. Felt (IV) at Olalla and Port Orchard. Felt (III) at Bremerton, Dockton, Port Gamble, Quilcene, Wauna and Seattle.
14 07 40 20.2 40.849 N 61.695 E 33 N 4.6 0.8 24 TURKMEN SSR
14 09 30 49.6 3.397 S 177.518 E 33 N 5.3 4.4 0.9 87 GILBERT ISLANDS REGION
14 11 12 01.2& 40.388 N 125.080 W 5 G 3.4 16 OFF COAST OF NORTHERN CALIFORNIA. <BRK>. ML 3.8 (BRK).
14 11 54 45.1* 21.587 N 143.116 E 295 4.1 0.5 16 MARIANA ISLANDS REGION
14 12 14 30.8* 10.819 S 120.265 E 33 N 4.1 1.3 8 SUMBA ISLAND REGION
14 13 21 47.4? 50.51 N 130.04 W 10 G 3.7 1.4 11 VANCOUVER ISLAND REGION
14 15 38 33.8? 3.55 S 177.59 E 33 N 4.6 1.1 14 GILBERT ISLANDS REGION
14 17 33 27.1 6.442 N 95.446 E 237 4.3 1.1 47 NICOBAR ISLANDS REGION
14 19 31 22.5* 5.415 N 126.844 E 33 N 4.5 1.3 8 MINDANAO, PHILIPPINE ISLANDS
14 20 02 15.3 15.058 S 167.230 E 125 D 5.1 1.0 36 VANUATU ISLANDS

14	22	34	49.0?	16.89	S	28.31	E	33	N			1.3	5	ZAMBIA
14	22	54	35.3	35.504	N	139.610	E	75		4.0		0.9	11	NEAR S. COAST OF HONSHU, JAPAN. Felt (II JMA) at Tokyo.
15	01	36	36.3*	44.624	N	147.863	E	53	D	4.1		0.7	11	KURIL ISLANDS
15	02	43	35.2*	29.238	S	67.762	W	130				1.2	8	LA RIOJA PROVINCE, ARGENTINA
15	04	25	46.8*	15.142	S	74.251	W	114				0.5	5	NEAR COAST OF PERU
15	06	04	37.2*	3.515	S	177.518	E	27	D	4.8		0.9	20	GILBERT ISLANDS REGION
15	07	01	36.9?	10.51	S	75.24	W	33	N			0.7	5	PERU
15	08	08	40.9*	42.052	N	16.259	E	10	G			1.4	7	ADRIATIC SEA. ML 2.8 (LJU).
15	08	49	02.7?	24.87	S	179.35	E	669		4.5		0.5	11	SOUTH OF FIJI ISLANDS
15	08	51	31.2*	30.559	S	178.460	W	52	D	5.0		1.5	13	KERMADEC ISLANDS
15	09	12	48.7	46.625	N	150.557	E	196	D	5.1		0.9	106	KURIL ISLANDS
15	09	57	18.7	43.62?	N	12.069	E	32				1.0	36	CENTRAL ITALY. ML 3.5 (TRI), 3.3 ML (RMP).
15	10	42	32.5*	55.700	S	27.606	W	31	D	5.2		1.0	15	SOUTH SANDWICH ISLANDS REGION
15	13	12	50.9?	14.04	N	93.14	W	33	N	4.2		1.0	13	NEAR COAST OF CHIAPAS, MEXICO
15	13	17	37.5	63.825	N	149.646	W	156				0.5	18	CENTRAL ALASKA
15	14	51	32.4	4.740	S	103.161	E	73		5.5		1.1	105	SOUTHERN SUMATERA
15	15	24	32.3*	32.660	S	71.854	W	33	N			1.3	6	NEAR COAST OF CENTRAL CHILE
15	16	03	27.8*	31.240	S	68.340	W	115				1.0	5	SAN JUAN PROVINCE, ARGENTINA
15	16	15	37.9	39.137	N	71.591	E	33	N	4.5		1.2	22	TAJIK SSR. Felt (IV) at Khaydarken and Frunzenskoye, and (III) at Sovetskiy, Kirghiz SSR.
15	16	21	14.6	54.208	N	161.631	W	59	D	5.3		0.8	138	ALASKA PENINSULA. Felt (IV) at Cold Bay and (III) at Sand Point.
15	17	50	27.3*	30.782	S	117.643	E	10	G	3.3		1.7	5	WESTERN AUSTRALIA
15	18	36	47.1*	42.263	N	142.425	E	52		4.5		0.7	16	HOKKAIDO, JAPAN REGION
15	19	24	26.1?	38.65	N	20.53	E	10	G	3.9		0.3	5	GREECE. ML 3.3 (TIR), mbLg 3.0 (SKO).
15	19	33	13.0?	22.30	S	174.57	W	33	N	4.7		1.4	18	TONGA ISLANDS REGION
15	21	45	56.6%	12.806	S	77.472	W	33	N			0.8	6	NEAR COAST OF PERU
15	21	52	08.6&	38.035	N	118.502	W	20	G	4.5			48	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 5.1 (BRK). Felt (IV) at Lee Vining and (III) at Bishop, Bridgeport, Benton, El Portal, Independence and Merced, California. Also felt (III) at Babbitt, Dyer, Goldfield, Hawthorne, Schurz and Yerington, Nevada.
15	22	06	06.4*	5.128	S	143.474	E	33	N	3.9		1.4	6	PAPUA NEW GUINEA
15	22	13	12.6	4.725	N	126.566	E	109		5.2		1.0	85	TALAUD ISLANDS
16	02	52	52.1*	15.641	S	137.935	W	0	G	4.8		0.8	21	TUAMOTU ARCHIPELAGO REGION
16	04	23	02.4*	23.686	N	122.631	E	33	N			0.8	9	TAIWAN REGION
16	04	48	28.0	39.805	N	25.538	E	10	G	4.0		1.2	11	AEGEAN SEA. ML 4.0 (ATH).
16	07	31	44.5*	35.986	N	136.812	E	278		4.0		0.4	7	SOUTHERN HONSHU, JAPAN
16	08	14	30.4	7.418	S	128.592	E	152		5.4		1.0	103	BANDA SEA
	CMTS: (HRV) B041682A DATA: GDSN ; L.P. BODY WAVES: 8S, 12C, T= 45;													
	CENTROID LOCATION OT 8:14:26.4 1.3; LAT 7.48S 0.10; LON 128.51E 0.17; DEP 144.6 6.8; HALF-DURATION 1.0													
	MT: Scale 10**23 d-cm; MRR= 3.01 0.49; MTT=-1.55 0.70; MFF=-1.47 0.86; MRT=-1.16 0.61; MRF= 1.05 0.71; MTF= 3.50 0.74													
	PRINCIPAL AXES: (T) VAL= 3.31; PLG=79; AZM=225; (N) VAL= 1.99; PLG= 0; AZM=135; (P) VAL= -5.30; PLG=11; AZM= 45													
	BEST DOUBLE COUPLE: Mo= 4.3*10**23; NP1: STRIKE=135; DIP=34; SLIP= 90; NP2: STRIKE=315; DIP=56; SLIP= 90													
16	08	46	56.6*	53.736	N	163.430	W	33	N	4.2		1.1	11	UNIMAK ISLAND REGION
16	08	49	32.1*	53.732	N	163.331	W	33	N	4.5		1.1	6	UNIMAK ISLAND REGION
16	09	00	29.0	11.470	S	117.513	E	33	N	4.2		1.3	26	SOUTH OF SUMBAWA ISLAND
16	09	59	45.0*	34.618	S	71.369	W	92				0.5	7	NEAR COAST OF CENTRAL CHILE
16	10	45	44.4	35.703	N	140.207	E	60		4.4		0.9	12	NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at Chiba, Tateyama and Tokyo.
16	11	31	47.8	61.267	N	149.478	W	52				1.2	16	SOUTHERN ALASKA. Felt (IV) at Anchorage, Chugiak and Palmer.
16	14	00	02.7*	31.959	S	72.030	W	33	N			0.8	6	OFF COAST OF CENTRAL CHILE
16	14	04	51.2	15.792	S	172.985	W	33	N	6.0	6.0	0.9	184	SAMOA ISLANDS REGION. Ms 6.2 (PAS), 6.4 (BRK). Felt (III) at Apia.
	CMTS: (HRV) B041682B DATA: GDSN ; L.P. BODY WAVES: 17S, 49C, T= 45;													
	CENTROID LOCATION OT 14: 5: 0.1 0.2; LAT 15.62S 0.03; LON 172.82W 0.02; DEP 59.3 2.7; HALF-DURATION 4.0													
	MT: Scale 10**25 d-cm; MRR= 0.46 0.03; MTT= 0.50 0.04; MFF=-0.97 0.04; MRT=-0.69 0.03; MRF= 1.69 0.05; MTF=-0.13 0.04													
	PRINCIPAL AXES: (T) VAL= 1.89; PLG=50; AZM=228; (N) VAL= 0.23; PLG=17; AZM=340; (P) VAL= -2.12; PLG=34; AZM= 82													
	BEST DOUBLE COUPLE: Mo= 2.0*10**25; NP1: STRIKE=223; DIP=19; SLIP= 154; NP2: STRIKE=337; DIP=82; SLIP= 72													
16	15	00	23.2&	20.037	N	155.344	W	7	G				10	HAWAII. <HVO-P>. ML 4.2 (HVO). Felt.
16	15	22	51.0*	5.553	N	126.201	E	118		3.9		1.0	10	MINDANAO, PHILIPPINE ISLANDS
16	17	15	16.9	49.118	S	127.224	E	10	G	4.9		1.1	19	SOUTH OF AUSTRALIA
16	18	05	07.9	17.038	S	73.103	W	25		5.0	4.9	1.2	33	OFF COAST OF PERU
16	19	15	49.9*	59.248	N	153.488	W	161				1.0	20	SOUTHERN ALASKA
16	19	21	05.9	21.750	N	143.041	E	303		4.8		0.6	47	MARIANA ISLANDS REGION
16	22	07	53.1	43.769	N	19.360	E	10	G			1.0	7	YUGOSLAVIA. ML 3.0 (LJU).
16	23	20	47.1*	51.468	N	7.128	E	10	G			0.6	7	GERMANY
16	23	43	14.2*	41.801	N	140.547	E	165		4.6		0.8	9	HOKKAIDO, JAPAN REGION
17	00	54	47.7*	15.541	S	173.415	W	33	N	4.4		1.0	11	TONGA ISLANDS
17	01	22	54.9&	35.910	N	89.020	W	4	G				7	TENNESSEE. <TEIC>. mbLg 2.8. Felt in the Dyer area.
17	01	58	50.7?	40.82	N	29.69	E	10	G			1.1	6	TURKEY
17	02	23	25.1	36.478	N	6.803	W	33	N			1.0	19	STRAIT OF GIBRALTAR
17	02	42	03.9	28.637	N	51.720	E	33	N	4.4		0.7	27	SOUTHERN IRAN
17	03	33	33.7	59.838	N	29.781	W	10	G	4.6	3.8	0.7	58	NORTH ATLANTIC OCEAN
17	03	41	34.5?	59.87	N	29.82	W	10	G	4.3	3.7	1.2	19	NORTH ATLANTIC OCEAN
17	04	29	24.3*	2.328	S	78.278	W	33	N	4.4		1.0	10	ECUADOR
17	04	31	25.4	39.507	N	20.665	E	10	G	3.8		1.3	21	GREECE-ALBANIA BORDER REGION. ML 3.8 (ATH). Felt at Ioannina, Greece.
17	04	43	50.1*	17.424	S	167.793	E	33	N	4.8		1.3	18	VANUATU ISLANDS
17	04	49	39.3*	19.727	S	172.466	W	33	N	4.6		1.5	11	TONGA ISLANDS REGION
17	05	46	25.1*	33.119	S	70.851	W	86				0.7	6	CHILE-ARGENTINA BORDER REGION
17	06	10	53.1	60.003	N	153.387	W	150		3.9		0.6	14	SOUTHERN ALASKA
17	07	50	34.3*	3.517	S	147.433	E	33	N	4.3		1.2	7	BISMARCK SEA
17	08	32	23.8*	2.875	N	126.721	E	121		4.8		1.2	13	MOLUCCA PASSAGE
17	08	55	26.6*	3.694	S	147.507	E	33	N	4.1		0.9	8	BISMARCK SEA
17	09	20	57.8	19.871	N	120.526	E	10		6.2	6.0	0.9	304	PHILIPPINE ISLANDS REGION. Ms 5.8 (BRK). Felt (II) at Santa, Luzon.
	CMTS: (HRV) B041782A DATA: GDSN ; L.P. BODY WAVES: 15S, 42C, T= 45;													
	CENTROID LOCATION OT 9:21: 5.7 0.2; LAT 19.72N 0.02; LON 120.56E 0.03; DEP 12.7 1.1; HALF-DURATION 5.0													
	MT: Scale 10**25 d-cm; MRR=-3.93 0.09; MTT= 0.43 0.09; MFF= 3.50 0.12; MRT=-1.11 0.21; MRF=-1.03 0.24; MTF= 0.85 0.07													
	PRINCIPAL AXES: (T) VAL= 3.93; PLG= 9; AZM=107; (N) VAL= 0.35; PLG=10; AZM=198; (P) VAL= -4.28; PLG=76; AZM=333													
	BEST DOUBLE COUPLE: Mo= 4.1*10**25; NP1: STRIKE=185; DIP=37; SLIP=-106; NP2: STRIKE= 25; DIP=55; SLIP= -78													

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17   09 54 41.2  19.751 N  120.382 E   33 N  4.7                    0.9   19  PHILIPPINE ISLANDS REGION
17   12 10 02.9* 19.910 N  120.704 E   33 N  4.1                    0.7    6  PHILIPPINE ISLANDS REGION
17   12 56 27.7   3.401 S  177.446 E   33 N  5.0                    0.7   37  GILBERT ISLANDS REGION
17   13 38 37.6* 19.961 N  120.743 E   33 N  4.4                    1.4   12  PHILIPPINE ISLANDS REGION
17   14 50 05.7  19.849 N  120.382 E   33 N  4.9 4.1                 1.2   40  PHILIPPINE ISLANDS REGION
17   16 37 35.5   7.281 S  147.597 E   33 N  4.1                    0.7    7  EAST PAPUA NEW GUINEA REGION
17   16 38 08.7* 60.290 N  139.692 W   15 G  3.7                    1.3   13  SOUTHEASTERN ALASKA. ML 3.9 (PMR).
17   17 06 46.6* 60.159 N  139.439 W   15 G  4.0                    1.0   15  SOUTHEASTERN ALASKA. ML 4.4 (PMR).
17   18 00 00.06 37.017 N  116.010 W    0 G  4.5                          29  SOUTHERN NEVADA. (DOE). ML 4.4 (BRK). 37° 01' 00.54"
                                                                            N., 116° 00' 35.53" W., Surface Elev. 1210 m., Depth of
                                                                            Burial 357 m., Shot Time 180000.088, "TENAJA", Nevada
                                                                            Test Site (Dept. of Energy).
17   18 17 11.3  19.864 N  120.587 E   33 D  5.4 4.9                 0.9   17  PHILIPPINE ISLANDS REGION
  CMTS: (HRV) B041782B   DATA: GDSN                    ; L.P. BODY WAVES: 10S, 26C, T= 45;
  CENTROID LOCATION   OT 18:17:14.2 0.6;  LAT 19.73N 0.10;  LON 120.55E 0.10;  DEP  12.6 3.3;          HALF-DURATION  1.5
  MT: Scale 10**23 d-cm; MRR=-5.95 0.51; MTT= 1.12 0.52; MFF= 4.84 0.65; MRT=-1.93 1.31; MRF=-2.62 1.34; MTF= 1.13 0.49
  PRINCIPAL AXES:  (T) VAL=  5.95; PLG=15; AZM=109;  (N) VAL=  0.95; PLG= 7; AZM=201;  (P) VAL= -6.89;  PLG=74; AZM=314
  BEST DOUBLE COUPLE:        Mo= 6.4*10**23;   NP1:  STRIKE=190; DIP=31; SLIP=-103;   NP2:  STRIKE= 24; DIP=60; SLIP= -82
17   18 17 25.3* 59.355 N  151.956 W   87                         0.6   11  KENAI PENINSULA, ALASKA
17   18 35 51.8? 44.72  N  148.86  E   33 N  5.0                  0.7   14  KURIL ISLANDS
17   18 45 58.6   6.507 S  130.712 E   82    5.5                  1.2   92  BANDA SEA
  CMTS: (HRV) B041782C   DATA: GDSN                    ; L.P. BODY WAVES: 11S, 25C, T= 45;
  CENTROID LOCATION   OT 18:46: 5.6 0.7;  LAT  6.28S 0.06;  LON 130.85E 0.09;  DEP 124.3 5.7;          HALF-DURATION  1.5
  MT: Scale 10**23 d-cm; MRR= 0.40 0.52; MTT=-3.56 0.82; MFF= 3.16 1.11; MRT= 1.34 0.57; MRF= 7.88 0.63; MTF=-3.53 0.76
  PRINCIPAL AXES:  (T) VAL= 10.04; PLG=38; AZM=260;  (N) VAL= -1.56; PLG=31; AZM= 18;  (P) VAL= -8.50;  PLG=36; AZM=135
  BEST DOUBLE COUPLE:        Mo= 9.3*10**23;   NP1:  STRIKE=286; DIP=31; SLIP= 178;   NP2:  STRIKE= 18; DIP=89; SLIP=  59
17   19 19 59.9* 16.823 S  173.614 W   54      4.8                1.0   25  TONGA ISLANDS
17   19 59 53.9* 19.827 N  120.607 E   33 N  4.4                  1.0   12  PHILIPPINE ISLANDS REGION
17   20 37 08.8  55.834 N  160.991 E  159 D  5.3                  0.9  215  KAMCHATKA
17   20 52 47.7   4.452 S  153.492 E  118    4.9                  1.0   20  NEW IRELAND REGION
17   22 12 17.6* 39.694 N   20.141 E   10 G  3.3                  1.3   14  GREECE-ALBANIA BORDER REGION. ML 2.9 (SKO).
17   22 40 14.8  34.881 N  141.613 E   44      5.2 4.9            0.9   92  OFF EAST COAST OF HONSHU, JAPAN
17   23 23 47.5  30.155 N  131.104 E   44      4.6 4.4            0.9   17  KYUSHU, JAPAN
18   00 09 12.4  35.818 N  140.725 E   66      4.9                1.2   20  NEAR EAST COAST OF HONSHU, JAPAN. Felt (III JMA) at
                                                                            Choshi, (II JMA) at Mito.
18   05 53 01.9* 46.390 N   13.229 E   10 G                       0.6    6  AUSTRIA. ML 3.0 (GRC1).
18   06 42 15.7  51.651 N   16.085 E   10 G                       0.8   14  POLAND. ML 4.1 (GRF), 3.5 (KBA).
18   08 57 07.7  28.931 N  142.232 E   22 D  5.6 5.7              1.0  195  BONIN ISLANDS REGION
  CMTS: (HRV) B041882A   DATA: GDSN                    ; L.P. BODY WAVES: 12S, 29C, T= 45;
  CENTROID LOCATION   OT  8:57:12.1 0.5;  LAT 28.89N 0.08;  LON 142.76E 0.05;  DEP  17.0 2.7;          HALF-DURATION  1.7
  MT: Scale 10**24 d-cm; MRR= 2.81 0.14; MTT= 1.04 0.15; MFF=-3.85 0.22; MRT= 1.49 0.41; MRF= 1.89 0.64; MTF= 1.34 0.14
  PRINCIPAL AXES:  (T) VAL=  4.31; PLG=56; AZM=331;  (N) VAL=  0.20; PLG=31; AZM=177;  (P) VAL= -4.51;  PLG=12; AZM= 80
  BEST DOUBLE COUPLE:        Mo= 4.4*10**24;   NP1:  STRIKE=136; DIP=43; SLIP=  40;   NP2:  STRIKE= 14; DIP=64; SLIP= 125
18   09 23 25.3   3.394 S  177.474 E   25 D  5.5 5.5              0.9  141  GILBERT ISLANDS REGION
  CMTS: (HRV) B041882B   DATA: GDSN                    ; L.P. BODY WAVES: 10S, 23C, T= 45;
  CENTROID LOCATION   OT  9:23:23.9 1.1;  LAT  3.62S 0.12;  LON 177.33E 0.13;  DEP  29.310.4;          HALF-DURATION  1.5
  MT: Scale 10**23 d-cm; MRR= 7.23 0.72; MTT=-4.52 1.26; MFF=-2.71 1.07; MRT=-9.51 3.86; MRF= 4.50 2.53; MTF= 1.58 0.93
  PRINCIPAL AXES:  (T) VAL= 13.18; PLG=60; AZM=204;  (N) VAL= -1.81; PLG= 1; AZM=296;  (P) VAL=-11.37;  PLG=29; AZM= 27
  BEST DOUBLE COUPLE:        Mo= 1.2*10**24;   NP1:  STRIKE=121; DIP=16; SLIP=  95;   NP2:  STRIKE=296; DIP=74; SLIP=  89
18   10 42 10.9  14.308 N   91.592 W   85      5.3                1.1  231  GUATEMALA. Damage at Morazan and Retalhuleu.
18   11 30 55.3  28.185 S  114.069 W   10 G  5.9 5.8              1.0  206  EASTER ISLAND REGION. Ms 5.6 (BRK).
  CMTS: (HRV) B041882C   DATA: GDSN                    ; L.P. BODY WAVES: 17S, 46C, T= 45;
  CENTROID LOCATION   OT 11:31: 4.3 0.3;  LAT 29.07S 0.04;  LON 113.84W 0.05;  DEP  10.0 FIX;          HALF-DURATION  3.5
  MT: Scale 10**25 d-cm; MRR= 1.28 0.04; MTT=-0.40 0.04; MFF=-0.88 0.04; MRT= 0.00 0.14; MRF= 0.11 0.18; MTF= 0.76 0.05
  PRINCIPAL AXES:  (T) VAL=  1.28; PLG=86; AZM=295;  (N) VAL=  0.15; PLG= 3; AZM=144;  (P) VAL= -1.43;  PLG= 2; AZM= 54
  BEST DOUBLE COUPLE:        Mo= 1.4*10**25;   NP1:  STRIKE=140; DIP=43; SLIP=  85;   NP2:  STRIKE=327; DIP=47; SLIP=  95
18   11 36 40.7? 34.67  N  137.04  E  425                         0.2    7  NEAR S. COAST OF HONSHU, JAPAN
18   13 27 27.3* 37.105 N  141.936 E   33 N  4.4                  1.0   14  NEAR EAST COAST OF HONSHU, JAPAN
18   14 15 57.0? 5.62   S   77.54  W   61 D  4.6                  1.0   10  NORTHERN PERU
18   15 59 40.8* 18.335 N  103.635 W   33 N  4.2                  1.4   15  NEAR COAST OF MICHOACAN, MEXICO
18   16 53 59.0  19.784 N  120.539 E   33 N  4.4                  0.8   30  PHILIPPINE ISLANDS REGION
18   17 39 01.7* 11.584 S  117.724 E   33 N  3.2                  1.5    7  SOUTH OF SUMBAWA ISLAND
18   17 58 01.5? 3.24   S  177.28  E   33 N  4.6                  0.7    6  GILBERT ISLANDS REGION
18   18 18 02.1  5.941 N   126.223 E  102 D  5.0                  1.1   45  MINDANAO, PHILIPPINE ISLANDS
18   18 43 08.0  11.787 S   76.049 W  133      4.5                0.9   33  PERU
18   22 03 46.6? 14.92  N   59.48  W   33 N                       0.4    5  WINDWARD ISLANDS
18   23 07 45.7? 14.98  N   59.92  W   33 N                       0.3    5  WINDWARD ISLANDS
18   23 18 01.4  36.727 N   27.062 E  162      4.9                0.9  124  DODECANESE ISLANDS
19   00 27 38.3* 6.168  S  153.884 E   33 N  4.3                  0.7    7  NEW BRITAIN REGION
19   00 42 03.8* 17.749 S  178.612 W  575      4.6                1.2   11  FIJI ISLANDS REGION
19   02 25 35.2  36.080 N  139.786 E   63      4.8                0.8   38  HONSHU, JAPAN. Felt (III JMA) in the Mito-Utsunomiya
                                                                            area.
19   03 26 44.4  33.780 S   68.420 W   33 N                       0.9    8  MENDOZA PROVINCE, ARGENTINA
19   04 32 54.8  38.764 N   26.876 E   10 G  4.3 3.7              1.1   56  AEGEAN SEA. ML 4.6 (ATH).
19   04 38 43.8* 14.964 S   73.686 W  111      4.5                0.8   10  PERU
19   05 04 02.5   3.477 S  177.574 E   33 N  5.2                  0.8   60  GILBERT ISLANDS REGION
19   07 55 16.4  26.044 S  178.625 W  351 D  5.5                  1.2  127  SOUTH OF FIJI ISLANDS
19   08 09 10.4* 36.184 N    1.477 E   10 G  3.6                  0.8   18  ALGERIA. Felt in the Chlef area.
19   09 01 09.1  31.269 S   67.730 W   10 G  4.2                  1.0    9  SAN JUAN PROVINCE, ARGENTINA
19   09 22 31.3  28.343 N  139.853 E  366      4.5                0.9   26  BONIN ISLANDS REGION
19   09 47 37.5  63.546 N  147.953 W   33 N                       0.9   20  CENTRAL ALASKA. ML 3.3 (PMR).
19   09 49 23.9  61.832 N    4.264 E   10 G                       1.3   12  SOUTHERN NORWAY. Felt north of Bergen.
19   11 42 29.5   4.383 N  125.798 E  169      5.0                1.0   34  TALAUD ISLANDS
19   11 54 27.5  22.604 S   66.020 W  250 D  5.3                  1.0  149  JUJUY PROVINCE, ARGENTINA
19   12 23 55.8S 19.347 N  155.077 W    9 G                             10  HAWAII. <HVO-P>. ML 3.9 (HVO). Felt.
19   13 02 00.6S 19.343 N  155.064 W    9 G                             10  HAWAII. <HVO-P>. ML 3.9 (HVO). Felt.
19   13 09 59.7? 35.75  N   24.68  E   49      3.8                1.0   10  CRETE
19   13 47 39.7  10.456 N  125.851 E   79      4.5                1.3   26  LEYTE, PHILIPPINE ISLANDS
19   13 50 11.0* 60.483 N  153.049 W  139                         0.4   10  SOUTHERN ALASKA
19   14 26 00.3  28.950 N  142.235 E   33 N  4.7                  1.2   35  BONIN ISLANDS REGION
19   14 42 14.1  19.888 N  120.518 E    2      5.8 5.6            1.0  250  PHILIPPINE ISLANDS REGION
  CMTS: (HRV) B041982A   DATA: GDSN                    ; L.P. BODY WAVES: 17S, 48C, T= 45;
  CENTROID LOCATION   OT 14:42:23.2 0.2;  LAT 19.70N 0.03;  LON 120.51E 0.03;  DEP  21.7 1.5;          HALF-DURATION  4.3
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MT: Scale 10**25 d-cm; MRR=-2.64 0.06; MTT= 0.46 0.07; MFF= 2.18 0.09; MRT=-0.65 0.12; MRF=-0.37 0.15; MTF=-0.18 0.05
PRINCIPAL AXES: (T) VAL= 2.22; PLG= 4; AZM= 86; (N) VAL= 0.58; PLG=12; AZM=176; (P) VAL= -2.80; PLG=78; AZM=338
BEST DOUBLE COUPLE: Mo= 2.5*10**25; NP1: STRIKE=163; DIP=42; SLIP=-107; NP2: STRIKE= 7; DIP=50; SLIP= -75

19	15	22	59.5*	20.366	S	69.853	W	33	N		1.3	7	NORTHERN CHILE
19	17	28	13.4	4.405	N	94.986	E	53		4.5	0.9	20	OFF W COAST OF NORTHERN SUMATERA
19	18	13	47.2?	17.73	S	173.41	W	33	N	4.4	0.6	6	TONGA ISLANDS
19	19	59	13.2*	6.872	N	73.149	W	163			0.4	6	NORTHERN COLOMBIA
19	22	16	21.3*	38.284	N	73.758	E	106		4.7	0.6	32	TAJIK-SINKIANG BORDER REGION
20	05	39	13.0*	39.462	N	64.403	E	33	N		0.2	5	LEEWARD ISLANDS
20	07	03	32.8*	36.416	N	141.844	E	33	N	4.0	1.5	8	UZBEK SSR
20	07	45	27.8?	55.57	S	159.54	E	10	G	4.2	0.8	8	NEAR EAST COAST OF HONSHU, JAPAN
20	08	08	40.1*	3.448	S	177.446	E	33	N	4.5	1.1	7	MACQUARIE ISLANDS REGION
20	10	06	55.1*	19.792	N	120.679	E	33	N	4.8	0.5	20	GILBERT ISLANDS REGION
20	10	55	28.7&	31.733	N	115.950	W	6	G	4.1	1.4	9	PHILIPPINE ISLANDS REGION
20	11	54	38.3*	32.345	S	72.640	W	33	N			4	BAJA CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
20	12	36	48.8*	18.121	S	69.323	W	183			1.2	7	OFF COAST OF CENTRAL CHILE
20	13	19	32.2*	59.410	N	6.723	E	10	G		1.1	6	NORTHERN CHILE
20	15	02	57.9*	31.659	S	68.126	W	10	G		1.4	7	SOUTHERN NORWAY
20	15	45	42.0*	39.043	N	24.999	E	10	G		1.3	5	SAN JUAN PROVINCE, ARGENTINA
20	16	53	46.3*	36.458	N	141.633	E	33	N	4.2	0.5	5	AEGEAN SEA. ML 3.4 (ATH).
20	18	32	20.3	38.719	N	26.851	E	10	G	4.3	1.1	12	NEAR EAST COAST OF HONSHU, JAPAN
20	19	30	31.5	35.397	N	23.305	E	33	N	4.7	1.3	27	AEGEAN SEA. ML 4.4 (ATH).
21	00	28	02.1?	17.11	S	178.93	W	556		4.0	1.1	124	CRETE. ML 4.6 (ATH).
21	01	35	04.1*	40.009	N	24.977	E	10	G		0.9	16	FIJI ISLANDS REGION
21	02	12	18.9	9.482	S	78.815	W	64	D	5.2	1.1	10	AEGEAN SEA. ML 3.7 (ATH).
21	03	35	13.8*	21.133	S	168.139	E	33	N		0.9	79	NEAR COAST OF NORTHERN PERU
21	04	29	38.6*	3.196	S	177.338	E	33	N	4.0	1.3	7	LOYALTY ISLANDS
21	06	29	37.6*	3.323	S	177.352	E	33	N	4.8	0.7	6	GILBERT ISLANDS REGION
21	06	34	16.3?	3.18	S	177.22	E	33	N	4.7	0.8	13	GILBERT ISLANDS REGION
21	10	57	18.3	6.808	N	73.023	W	168		4.3	1.0	10	GILBERT ISLANDS REGION
21	11	51	33.2	5.106	S	102.375	E	33	N	5.3 4.8	0.8	28	NORTHERN COLOMBIA
21	12	05	24.1	6.823	S	129.900	E	84		5.7	1.1	75	SOUTHERN SUMATERA
											1.1	108	BANDA SEA

CMTS: (HRV) B042182A DATA: GDSN ; L.P. BODY WAVES: 12S, 33C, T= 45;
CENTROID LOCATION OT 12: 5:26.8 0.6; LAT 6.92S 0.05; LON 130.10E 0.07; DEP 88.3 5.3; HALF-DURATION 2.0
MT: Scale 10**24 d-cm; MRR= 1.25 0.09; MTT=-0.26 0.14; MFF=-1.00 0.20; MRT= 0.17 0.10; MRF= 0.88 0.09; MTF= 0.99 0.13
PRINCIPAL AXES: (T) VAL= 1.69; PLG=62; AZM=305; (N) VAL= 0.13; PLG=25; AZM=155; (P) VAL= -1.82; PLG=12; AZM= 59
BEST DOUBLE COUPLE: Mo= 1.8*10**24; NP1: STRIKE=120; DIP=39; SLIP= 48; NP2: STRIKE=349; DIP=62; SLIP= 119

21	13	40	05.5*	35.794	N	44.417	E	56		4.6	0.7	13	IRAQ
21	13	42	30.0	23.999	S	66.723	W	206		4.8	1.1	25	JUJUY PROVINCE, ARGENTINA
21	15	38	00.9	35.820	N	44.438	E	61		4.5	1.1	17	IRAQ
21	17	46	05.8*	47.671	N	7.454	E	10	G		0.4	6	SWITZERLAND
21	19	40	58.3*	6.163	S	104.553	E	190		4.2	1.3	12	SUNDA STRAIT
21	21	19	30.4&	35.000	N	119.350	W	6	G			7	CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
21	22	21	20.2	42.695	N	143.220	E	98		4.8	0.7	47	HOKKAIDO, JAPAN REGION
21	23	36	42.5*	3.452	S	177.462	E	27	D	4.8	0.7	20	GILBERT ISLANDS REGION
22	02	50	30.5*	50.308	N	155.574	E	33	N	4.7	0.8	21	KURIL ISLANDS
22	02	58	39.5	5.648	S	133.726	E	33	N	5.3 4.6	0.9	105	AROE ISLANDS REGION
22	03	45	29.6?	35.95	N	141.06	E	33	N		0.4	5	NEAR EAST COAST OF HONSHU, JAPAN
22	04	10	14.5?	17.67	S	76.91	W	33	N		1.2	5	OFF COAST OF PERU
22	04	24	54.3?	3.13	S	27.56	E	33	N	4.4	1.2	7	ZAIRE REPUBLIC
22	06	11	20.7	37.462	N	69.838	E	33	N	4.8	0.6	29	AFGHANISTAN-USSR BORDER REGION. Felt (II) at Kulyab and Nurek, USSR.
22	07	15	38.8	6.788	S	116.544	E	546		5.0	0.9	36	BALI SEA
22	07	42	07.3	62.840	N	149.594	W	99			0.5	19	CENTRAL ALASKA
22	08	15	02.4*	3.379	S	177.447	E	27	D	4.8	0.6	27	GILBERT ISLANDS REGION
22	08	43	22.4*	3.185	S	177.187	E	28	D	4.7	0.9	19	GILBERT ISLANDS REGION
22	09	22	04.0	43.968	N	141.991	E	227		4.5	1.3	42	HOKKAIDO, JAPAN REGION
22	09	56	12.1	3.455	S	177.607	E	29	D	5.4 4.8	0.8	68	GILBERT ISLANDS REGION
22	10	42	15.3*	42.486	N	142.818	E	33	N	4.8	0.9	20	HOKKAIDO, JAPAN REGION
22	12	34	43.2	18.947	N	145.165	E	612		4.7	0.8	58	MARIANA ISLANDS
22	16	08	07.9	3.411	S	177.560	E	33	N	5.2	0.9	46	GILBERT ISLANDS REGION
22	16	17	11.5*	18.016	S	178.601	W	597		5.0	0.9	32	FIJI ISLANDS REGION
22	16	39	35.1	29.889	N	94.901	E	33	N	5.1 4.3	1.1	94	INDIA-CHINA BORDER REGION
22	16	55	49.2*	13.308	N	120.125	E	47		4.7	0.9	11	MINDORO, PHILIPPINE ISLANDS
22	18	32	03.6?	29.88	S	178.49	W	101		5.1	1.1	13	KERMADEC ISLANDS
22	19	19	17.9*	0.439	N	122.614	E	79		4.8	1.1	13	MINAHASSA PENINSULA
22	20	46	09.7*	8.201	S	116.009	E	33	N	3.9	0.6	6	SUMBAWA ISLAND REGION
22	21	22	38.4?	51.153	N	15.860	E	10	G		0.6	9	POLAND. ML 3.3 (GRF).
22	21	53	37.8	18.650	N	145.490	E	181		4.7	0.9	26	MARIANA ISLANDS
23	00	35	59.0*	4.980	N	127.148	E	109		4.5	1.3	10	TALAUD ISLANDS
23	02	01	54.6	6.504	S	130.045	E	257			0.5	8	BANDA SEA
23	02	21	21.5*	39.179	N	24.507	E	33	N		1.0	14	AEGEAN SEA. ML 3.3 (ATH).
23	04	25	06.8	23.788	N	122.550	E	33	N	4.8	1.0	29	TAIWAN REGION
23	08	11	13.4	3.665	N	78.748	W	33	N	4.7	1.1	24	SOUTH OF PANAMA
23	08	34	34.5*	37.610	N	21.302	E	33	N	3.9	0.6	9	SOUTHERN GREECE. ML 3.8 (ATH).
23	10	04	20.9	40.975	N	70.702	E	33	N	4.4	0.9	19	TAJIK SSR
23	14	43	17.3	60.209	N	141.064	W	12		4.9 4.2	0.9	82	SOUTHEASTERN ALASKA. ML 5.0 (PMR).
23	15	30	36.6*	61.239	N	146.152	W	26			1.0	17	SOUTHERN ALASKA. ML 2.8 (PMR). Felt (III) at Valdez.
23	15	58	00.7*	42.282	N	142.362	E	54		4.6	0.6	10	HOKKAIDO, JAPAN REGION
23	22	02	40.8*	15.508	S	167.461	E	116		4.5	1.4	34	VANUATU ISLANDS
23	23	18	23.5	51.178	N	179.844	W	44		5.6 5.1	0.9	194	ANDREANOF ISLANDS, ALEUTIAN IS. Felt (III) on Adak.

CMTS: (HRV) B042382A DATA: GDSN ; L.P. BODY WAVES: 13S, 36C, T= 45;
CENTROID LOCATION OT 23:18:25.0 0.4; LAT 51.08N 0.03; LON 180.17W 0.10; DEP 23.4 2.5; HALF-DURATION 2.3
MT: Scale 10**24 d-cm; MRR= 2.25 0.07; MTT=-2.39 0.08; MFF= 0.15 0.10; MRT= 1.81 0.26; MRF= 1.31 0.20; MTF=-1.03 0.13
PRINCIPAL AXES: (T) VAL= 3.17; PLG=67; AZM=307; (N) VAL= 0.39; PLG=11; AZM= 63; (P) VAL= -3.57; PLG=21; AZM=157
BEST DOUBLE COUPLE: Mo= 3.4*10**24; NP1: STRIKE=265; DIP=26; SLIP= 115; NP2: STRIKE= 58; DIP=66; SLIP= 78

23	23	18	49.9*	63.050	N	155.256	W	33	N		1.1	9	CENTRAL ALASKA. ML 3.5 (PMR).
24	00	02	01.7?	37.44	N	34.77	E	10	G	4.3	0.6	11	TURKEY
24	00	17	47.5&	35.767	N	117.733	W	4	G			9	CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
24	01	44	55.2*	41.067	N	15.197	E	33	N	3.4	1.3	17	SOUTHERN ITALY. ML 3.0 (RMP).
24	02	04	41.6	28.334	N	92.841	E	33	N	4.9 4.0	1.0	70	INDIA-CHINA BORDER REGION
24	03	50	26.9*	12.658	N	120.607	E	33	N	4.4	0.2	6	MINDORO, PHILIPPINE ISLANDS

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24   04 44 04.5? 36.96  S   95.81  W   10 G  4.3          0.7    6  WEST CHILE RISE
24   06 10 57.2   3.314 S  177.507 E   28 D  5.1          0.9   53  GILBERT ISLANDS REGION
24   07 26 07.5* 36.275 N  140.935 E   87     4.5        0.7   12  NEAR EAST COAST OF HONSHU, JAPAN. Felt (II JMA) in
                                                                    northeastern Honshu.
24   16 39 56.3* 31.261 S   67.908 W   10 G                0.6    5  SAN JUAN PROVINCE, ARGENTINA
24   18 04 05.1  38.360 N   39.577 E   10 G  4.5 3.8       1.1   37  TURKEY. Felt in southeastern Turkey.
24   20 57 26.1  34.205 S   68.451 W   33 N               1.2   11  MENDOZA PROVINCE, ARGENTINA
24   22 26 22.4   7.005 S  129.572 E  156     4.9         1.4   11  BANDA SEA
24   22 38 28.5  39.494 N   25.649 E   10 G  3.7          1.4   18  AEGEAN SEA. ML 3.5 (ATH).
25   01 35 04.1? 12.05  N   88.50  W   71 D  4.4          1.3   10  OFF COAST OF CENTRAL AMERICA
25   02 56 36.4   6.973 S  144.035 E   27     5.1 4.4     1.2   33  PAPUA NEW GUINEA
25   02 59 35.36 37.423 N  121.767 W    5 G                      9  CENTRAL CALIFORNIA. <BRK>. ML 3.1 (BRK). Felt.
25   03 23 05.4  49.889 N   78.931 E    0 G  6.1 4.4      0.9  285  EASTERN KAZAKH SSR. Underground nuclear explosion.
                                                                    (Dept. of Energy press release N82-015).
25   04 13 26.0& 35.767 N  117.733 W    5 G  3.7                16  CENTRAL CALIFORNIA. <PAS-P>. ML 3.7 (PAS), 4.3 (BRK).
25   04 26 07.1* 42.597 N  142.315 E   60     4.7         0.5   25  HOKKAIDO, JAPAN  REGION
25   05 00 56.5* 23.138 N  121.658 E   33 N               0.9    6  TAIWAN
25   05 03 09.3* 15.979 N   95.590 W   33 K  4.3          1.3   20  NEAR COAST OF OAXACA, MEXICO
25   05 37 03.2* 18.025 S  178.402 W  605     4.7         1.2   43  FIJI ISLANDS REGION
25   05 42 34.4* 4.523  S  153.443 E   98     4.5         1.2    7  NEW IRELAND REGION
25   06 01 51.1? 22.77  N  121.48  E   33 N               1.1    6  TAIWAN REGION
25   07 45 01.1   1.497 N  122.182 E   58     4.7         1.2   13  MINAHASSA PENINSULA
25   09 09 54.8  38.671 N   24.679 E   16                 0.8   10  AEGEAN SEA. ML 3.6 (ATH).
25   09 23 59.8* 3.502  S  146.322 E   33 N  5.0          1.1    9  BISMARCK SEA
25   10 04 21.7  15.055 S  167.380 E  119 D  5.7          1.1  138  VANUATU ISLANDS
   CMTS:  (HRV) B042582A    DATA:  GDSN          ;  L.P. BODY WAVES:  11S, 31C, T= 45;
   CENTROID LOCATION    OT 10: 4:27.0 0.6;  LAT 15.33S 0.04;  LON 166.99E 0.05;  DEP 120.7 2.0;          HALF-DURATION  1.6
   MT: Scale 10**24 d-cm; MRR= 1.47 0.06; MTT= 0.39 0.11; MFF=-1.86 0.11; MRT=-0.28 0.07; MRF=-0.68 0.06; MTF= 0.03 0.10
   PRINCIPAL AXES:  (T) VAL=  1.67; PLG=73; AZM=139;  (N) VAL=  0.33; PLG=12; AZM=  3;  (P) VAL= -2.00;  PLG=11; AZM=271
   BEST DOUBLE COUPLE:          Mo= 1.8*10**24;    NP1:  STRIKE=345; DIP=35; SLIP=  69;   NP2:  STRIKE=191; DIP=57; SLIP= 105
25   11 31 12.2* 24.214 N  122.369 E   33 N                0.5    5  TAIWAN REGION
25   14 34 59.8   3.350 S  177.476 E   27 D  5.3 4.7      0.9   58  GILBERT ISLANDS REGION
25   14 39 14.3* 11.167 S   78.570 W   33 N  4.9          0.8   13  OFF COAST OF PERU
25   15 05 52.3? 32.72  N   48.77  E   33 N  4.5          1.0   14  WESTERN IRAN
25   15 56 08.8& 32.950 N  115.550 W   15 G                      4  CALIFORNIA-MEXICO BORDER REGION. <PAS-P>. ML 2.4 (PAS).
                                                                    Felt in the Imperial Valley.
25   18 05 00.0& 37.256 N  116.422 W    0 G  5.4              185  SOUTHERN NEVADA. <DOE>. ML 5.4 (BRK). 37° 15' 21.03"
                                                                    N., 116° 25' 20.50" W., Surface Elev. 1964 m., Depth of
                                                                    Burial 570 m., Shot Time 180500.084, "GIBNE", Nevada
                                                                    Test Site (Dept. of Energy).
25   19 23 29.3* 39.511 N   25.478 E   10 G                1.2    8  AEGEAN SEA. ML 3.4 (ATH).
25   21 00 39.7* 37.641 N   21.362 E   33 N  3.6          0.8    6  SOUTHERN GREECE. ML 3.3 (ATH).
25   21 02 45.9* 3.234  S  177.440 E   33 N  4.8          1.0   22  GILBERT ISLANDS REGION
25   21 37 45.0  59.551 S   26.281 W   33 N  5.2          1.0   21  SOUTH SANDWICH ISLANDS REGION
25   22 35 41.1* 31.370 N   41.035 W   10 G  4.8 4.2      1.0   33  NORTH ATLANTIC RIDGE
26   00 05 09.3* 3.415  S  177.514 E   33 N  4.8          1.1   17  GILBERT ISLANDS REGION
26   00 12 49.2* 31.764 S   66.933 W  130                 0.9   11  LA RIOJA PROVINCE, ARGENTINA
26   00 47 11.6? 62.11  N  150.67  W   33 N               0.6    8  CENTRAL ALASKA. ML 2.9 (PMR).
26   02 48 29.2* 37.167 N   78.599 E   33 N  4.6          0.7   11  SOUTHERN SINKIANG PROV., CHINA
26   03 32 00.2* 36.002 N   69.719 E  118     4.3         0.6   10  HINDU KUSH REGION
26   03 35 50.6? 3.18   S  177.24  E   27 D  4.6          0.6   11  GILBERT ISLANDS REGION
26   04 33 45.9* 41.996 N   12.985 E   10 G                0.6    6  SOUTHERN ITALY. ML 3.0 (RMP).
26   05 32 27.2* 61.602 N  140.071 W   33 N  3.8          1.6   13  SOUTHERN YUKON TERRITORY, CANADA. ML 4.3 (PMR).
26   06 24 32.5  37.757 N   21.378 E   39     4.7 4.1     1.3   51  SOUTHERN GREECE. ML 4.2 (ATH). Felt at Patrai and
                                                                    Pirgos.
26   06 42 04.9* 37.650 N   21.420 E   33 N  3.8          0.9    6  SOUTHERN GREECE. ML 3.5 (ATH).
26   07 05 49.7* 3.727  N  126.547 E   33 N  4.4          1.2    9  TALAUD ISLANDS
26   08 31 47.7* 33.021 N  100.844 W    5 G               1.0    9  WEST TEXAS. mbLg 2.8.
26   08 49 35.6* 37.596 N   21.261 E   33 N  3.8          1.1   12  SOUTHERN GREECE. ML 3.5 (ATH).
26   09 32 34.3* 37.659 N   21.463 E   33 N  4.3          1.3   30  SOUTHERN GREECE. ML 4.0 (ATH).
26   12 31 01.2* 31.403 S   68.662 W  122                 0.1    6  SAN JUAN PROVINCE, ARGENTINA
26   12 55 40.0* 39.322 N   22.862 E   10 G               0.7   15  GREECE. ML 3.2 (ATH).
26   15 13 48.1* 61.437 N  147.458 W   50                 0.4    9  SOUTHERN ALASKA
26   15 59 48.1* 19.368 N   64.464 W   33 N  4.1          1.5    8  VIRGIN ISLANDS
26   18 17 21.6* 42.595 N   27.659 E   10 G               1.5    7  BULGARIA
26   19 22 55.4* 37.640 N   21.358 E   33 N  4.1          1.1   15  SOUTHERN GREECE. ML 4.1 (TIR), 3.8 (ATH).
26   20 49 23.9& 35.767 N  117.733 W    5 G                     10  CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
26   22 53 39.2* 26.803 S   26.738 E    5 G               0.9   10  REPUBLIC OF SOUTH AFRICA
26   23 30 32.2? 13.87  N  120.94  E  147     4.2         1.0    5  MINDORO, PHILIPPINE ISLANDS
27   00 14 03.1  14.527 N   87.720 W   33     5.0 4.6     1.1   91  HONDURAS. About 100 houses and a cathedral damaged in
                                                                    the Comayagua area. Felt in Honduras and Guatemala.
27   00 53 21.6* 14.408 N   87.786 W   33 N  4.9          1.4   29  HONDURAS. Felt in the Comayagua area.
27   02 34 14.0* 7.195  N  126.739 E   78     4.5         0.5   11  MINDANAO, PHILIPPINE ISLANDS
27   02 35 50.5* 46.808 N  154.081 E   33 N  4.8          1.0   48  KURIL ISLANDS REGION
27   02 43 39.2* 46.904 N  153.990 E   33 N  5.0 4.4      0.9   71  KURIL ISLANDS
27   02 59 35.6* 43.855 N  147.632 E   33 N  4.9 4.8      0.8   51  KURIL ISLANDS
27   03 15 20.4  14.506 N   87.694 W   34     4.5         1.1   38  HONDURAS. Felt in the Comayagua area.
27   03 32 27.0* 34.976 N  139.995 E  100     4.5         0.8    9  NEAR S. COAST OF HONSHU, JAPAN
27   03 51 49.8  41.884 N   23.291 E   10 G  3.5          1.1   13  GREECE-BULGARIA BORDER REGION
27   04 02 46.2* 41.772 N   23.328 E   10 G               0.4   11  GREECE-BULGARIA BORDER REGION
27   04 53 39.7* 14.679 N   87.687 W   33 N  4.5          1.3   14  HONDURAS. Felt in the Comayagua area.
27   06 16 05.8* 6.745  S  151.104 E   33 N  4.3          1.1    7  NEW BRITAIN REGION
27   07 13 53.6? 8.11   S  121.94  E   33 N  4.4          1.4   11  FLORES ISLAND REGION
27   07 40 12.1  26.889 S   26.635 E    5 G               1.2   13  REPUBLIC OF SOUTH AFRICA
27   07 47 06.9* 8.216  S  121.821 E   33 N  4.6          1.4   11  FLORES ISLAND REGION
27   07 54 41.3  16.982 S  174.070 W  108 D  5.0          1.1   82  TONGA ISLANDS
27   08 06 24.8   4.133 S  119.035 E   31     5.5 4.8     1.2   92  SULAWESI
27   08 12 21.5? 16.71  S  174.38  W  115 G  4.5          1.0   14  TONGA ISLANDS
27   10 02 13.1* 37.843 N   21.519 E   38     3.8         1.0   13  SOUTHERN GREECE. ML 3.6 (ATH), mbLg 3.4 (SKO).
27   11 04 37.7  57.899 S   25.307 W   33 N  4.9          1.0   21  SOUTH SANDWICH ISLANDS REGION
27   11 26 32.8* 19.803 S  178.372 W  594     4.4         1.2   12  FIJI ISLANDS REGION
27   11 49 28.7   8.292 S  121.461 E   33 N  5.2          1.1   48  FLORES ISLAND REGION
27   12 06 05.7   8.329 S  121.479 E   37     5.3 5.2     1.0   60  FLORES ISLAND REGION
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27	12	39	24.4	60.008	N	152.615	W	124		4.2	0.5	25	SOUTHERN ALASKA
27	14	41	33.0*	15.467	S	167.396	E	120		4.6	1.0	44	VANUATU ISLANDS
27	15	19	17.8&	16.123	N	96.481	W	33	N		1.5	7	OAXACA, MEXICO
27	15	42	40.2&	35.767	N	117.733	W	5	G			19	CENTRAL CALIFORNIA. <PAS-P>. ML 3.8 (PAS), 4.2 (BRK). Felt (IV) at China Lake, Ridgecrest, Onyx and Little Lake.
27	15	51	55.5?	39.29	N	28.16	E	10	G		1.3	7	TURKEY
27	16	15	18.4	8.356	S	121.525	E	33	N	5.0	1.1	41	FLORES ISLAND REGION
27	17	34	01.0&	35.767	N	117.733	W	7	G			10	CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
27	18	28	52.7*	44.245	N	146.750	E	122		4.5	1.1	17	KURIL ISLANDS
27	18	46	57.5*	51.082	N	15.159	E	21			1.2	9	POLAND. ML 3.6 (GRF).
27	20	30	52.1*	45.678	N	15.034	E	20	G		1.0	6	YUGOSLAVIA. ML 2.7 (KBA), 2.4 (TRI). Felt in the Crnomelj area.
27	22	24	18.1*	23.247	N	122.023	E	10	G		0.6	7	TAIWAN REGION
27	22	54	19.7*	32.158	S	69.313	W	132			0.5	6	MENDOZA PROVINCE, ARGENTINA
27	23	23	11.7	26.339	S	27.308	E	5	G		1.2	13	REPUBLIC OF SOUTH AFRICA
28	01	51	51.6?	33.14	S	69.88	W	134			1.3	6	CHILE-ARGENTINA BORDER REGION
28	02	26	52.6	44.866	N	252	E	10	G		1.1	11	NORTHERN ITALY. ML 3.1 (FIR).
28	03	20	29.9?	31.89		44	W	10	G	4.8	0.5	13	SOUTH ATLANTIC RIDGE
28	04	30	00.7	3.424	S	177.570	E	33	N	5.4 5.1	1.2	125	GILBERT ISLANDS REGION. Ms 5.5 (BRK).
28	05	37	54.3*	20.648	S	178.843	W	593		4.6	1.0	26	FIJI ISLANDS REGION
28	07	53	30.7	4.770	N	126.592	E	82		5.1	1.4	30	TALAUD ISLANDS
28	08	43	29.3	39.569	N	24.568	E	10	G	3.4	1.1	22	AEGEAN SEA. ML 3.8 (ATH).
28	12	20	11.5?	65.06	N	139.10	W	33	N		0.9	16	NORTHERN YUKON TERRITORY, CANADA. ML 3.9 (PMR).
28	15	22	41.2*	31.867	S	71.156	W	33	N		0.8	6	NEAR COAST OF CENTRAL CHILE
28	16	06	49.4	14.033	N	92.546	W	34		4.6	1.2	43	NEAR COAST OF CHIAPAS, MEXICO
28	16	49	37.2	3.337	S	177.472	E	33	N	4.9	1.0	28	GILBERT ISLANDS REGION
28	16	55	35.0*	37.567	N	21.426	E	10	G	4.2	1.5	9	SOUTHERN GREECE. ML 3.9 (ATH).
28	23	14	38.8	8.299	N	126.651	E	67		4.5	1.2	20	MINDANAO, PHILIPPINE ISLANDS
28	23	52	12.5*	8.117	N	126.836	E	63		4.9	0.9	10	MINDANAO, PHILIPPINE ISLANDS
29	00	12	40.1	31.527	S	69.359	W	132			0.9	9	SAN JUAN PROVINCE, ARGENTINA
29	01	35	21.1*	6.717	N	72.996	W	173		4.3	0.7	7	NORTHERN COLOMBIA
29	01	58	05.2*	40.606	N	21.421	E	10	G		0.4	10	GREECE. ML 3.1 (TIR).
29	02	57	39.2*	11.890	N	144.495	E	36		4.4	0.7	9	SOUTH OF MARIANA ISLANDS
29	03	28	21.5	24.744	S	177.236	W	143		5.3	1.1	57	SOUTH OF FIJI ISLANDS
29	05	00	37.3	24.808	N	122.471	E	18		4.5	0.9	22	TAIWAN REGION
29	05	21	56.2*	6.802	N	82.312	W	10	G	4.7	0.9	20	SOUTH OF PANAMA
29	11	14	10.1	8.481	N	126.487	E	69		4.8	1.0	29	MINDANAO, PHILIPPINE ISLANDS
29	13	58	13.8	47.075	N	26.028	E	13			1.3	11	ROMANIA
29	14	22	33.7	19.280	N	109.265	W	10	G	5.0 4.8	0.7	24	REVILLA GIGEDO ISLANDS REGION
29	15	33	45.0&	33.517	N	118.950	W	19	G			15	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.8 (PAS). Felt (III) at Carpinteria, Pasadena and Trabuco Canyon. Also felt at Brentwood and Los Angeles.
29	16	27	16.8	41.024	N	48.092	E	33	N	4.5	1.2	34	EASTERN CAUCASUS
29	20	20	20.0	10.644	S	41.381	E	10	G	5.2	1.0	67	NORTHWEST OF MADAGASCAR
29	22	28	23.7*	9.795	S	119.647	E	33	N	4.4	1.5	10	SUMBA ISLAND REGION
29	23	52	32.5	23.959	N	121.912	E	51			0.9	14	TAIWAN
30	01	47	09.0*	2.339	N	99.152	E	74			0.8	6	NORTHERN SUMATERA
30	03	16	15.1	22.337	N	143.418	E	119	D	4.8	0.9	28	VOLCANO ISLANDS REGION
30	05	45	02.1*	51.604	N	176.342	E	70		5.0	0.9	34	RAT ISLANDS, ALEUTIAN ISLANDS
30	06	43	37.0&	34.917	N	120.367	W	2	G			18	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.7 (PAS), 3.8 (BRK). Felt (IV) at Santa Maria.
30	07	25	15.5	47.279	N	11.335	E	10	G		1.3	23	AUSTRIA. ML 3.1 (GRF).
30	07	46	47.8	56.245	S	27.457	W	106		5.7	1.1	79	SOUTH SANDWICH ISLANDS REGION

CMTS: (HRV) B043082A DATA: GDSN ; L.P. BODY WAVES: 12S, 29C, T= 45;
CENTROID LOCATION OT 7:46:48.9 0.4; LAT 56.14S 0.04; LON 26.77W 0.09; DEP 106.7 3.3; HALF-DURATION 1.8
MT: Scale 10**24 d-cm; MRR=-0.30 0.08; MTT= 0.97 0.11; MFF=-0.68 0.14; MRT=-1.11 0.06; MRF=-0.86 0.06; MTF=-0.28 0.12
PRINCIPAL AXES: (T) VAL= 1.63; PLG=32; AZM=174; (N) VAL= 0.07; PLG=31; AZM= 61; (P) VAL= -1.71; PLG=42; AZM=298
BEST DOUBLE COUPLE: Mo= 1.7*10**24; NP1: STRIKE=318; DIP=32; SLIP= -11; NP2: STRIKE= 58; DIP=84; SLIP=-122

30	10	40	30.6	10.281	S	150.660	E	33	N	5.0	0.9	25	EAST PAPUA NEW GUINEA REGION
30	11	28	22.7	47.300	N	11.379	E	10	G		1.3	41	AUSTRIA. ML 3.9 (FUR), 3.5 (GRF). Felt (V) in the Innsbruck area.
30	13	26	00.4*	50.098	N	9.576	E	10	G		1.2	8	GERMANY. ML 2.5 (GRF).
30	14	04	13.2	42.903	N	12.992	E	10	G		1.0	17	CENTRAL ITALY. ML 3.5 (TRI), 3.4 (RMP). Felt in the Foligno area.
30	15	30	06.5	61.639	N	151.337	W	76			0.6	15	SOUTHERN ALASKA
30	15	45	28.6	39.347	N	23.028	E	10	G		0.6	13	AEGEAN SEA. ML 3.0 (ATH).
30	16	28	48.1	39.287	N	22.943	E	10	G		0.9	13	GREECE. ML 3.3 (ATH).
30	17	27	50.6	33.544	N	46.100	E	53		4.6	1.2	21	IRAN-IRAQ BORDER REGION
30	19	20	42.9*	37.748	N	21.468	E	10	G	4.3	1.4	21	SOUTHERN GREECE. ML 3.8 (ATH).
30	19	24	00.8	37.646	N	21.434	E	10	G	4.3	1.3	18	SOUTHERN GREECE. ML 3.9 (ATH).
30	21	03	45.5	37.811	S	73.790	W	33	N	4.9 4.9	1.2	28	NEAR COAST OF CENTRAL CHILE
30	21	57	41.8	47.244	N	11.404	E	12			1.1	30	AUSTRIA. ML 3.8 (FUR), 3.2 (GRF). Felt (V) in the Innsbruck area.
30	22	01	54.3	32.157	S	70.033	W	146			0.5	7	CHILE-ARGENTINA BORDER REGION
30	22	46	49.9&	24.548	N	121.700	E	7			0.3	6	TAIWAN

Compiled by W. Leroy Irby, Willis L. Jacobs, John H. Minsch, Russell E. Needham, Waverly J. Person, Bruce W. Presgrave and William H. Schmieder.

Fault Plane Solutions: A fault plane solution is determined when possible from P-wave first motions for any earthquake having a magnitude of 6.5 or greater. A description of this solution is reported in the comments on the Preliminary Determination of Epicenters Monthly Listing. Focal sphere solutions and first motion parameters are available upon request from:

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DAY	ORIGIN TIME UTC HR MN SEC	GEOGRAPHIC COORDINATES LAT	LONG	DEPTH	MAGNITUDES GS MB	Msz	SD	NO. STA USED	REGION, CONTRIBUTED MAGNITUDES AND COMMENTS
01	01 34 21.1*	51.604 N	7.640 E	10 G			0.2	8	GERMANY. ML 2.5 (BNS).
01	02 07 49.8	15.626 N	90.306 W	33 N	4.9		1.2	24	GUATEMALA
01	05 23 30.6*	17.248 S	176.696 E	64		4.8	1.3	18	FIJI ISLANDS REGION
01	06 33 11.0	47.291 N	11.407 E	10 G			1.1	63	AUSTRIA. ML 4.1 (FUR), 4.0 (GRF). Felt in the Innsbruck area.
01	07 41 39.3	29.447 S	176.823 W	33 N	4.9		1.3	25	KERMADEC ISLANDS REGION
01	08 43 39.1*	29.510 S	177.044 W	33 N	4.9		1.2	13	KERMADEC ISLANDS
01	08 46 24.0*	29.606 S	176.832 W	33 N	4.9		1.5	15	KERMADEC ISLANDS REGION
01	10 11 46.8*	29.444 S	177.135 W	33 N	5.0		1.4	19	KERMADEC ISLANDS
01	10 27 52.8	29.217 S	177.349 W	33 N	5.4	5.3	1.2	75	KERMADEC ISLANDS
	CMTS: (HRV) B050182A DATA: GDSN ; L.P. BODY WAVES: 12S, 32C, T= 45;								
	CENTROID LOCATION OT 10:28: 1.0 0.5; LAT 29.14S 0.05; LON 177.09W 0.05; DEP 18.5 2.5; HALF-DURATION 3.0								
	MT: Scale 10**24 d-cm; MRR= 1.85 0.07; MTT= 0.03 0.08; MFF=-1.88 0.09; MRT= 0.16 0.18; MRF= 1.13 0.31; MTF=-0.57 0.07								
	PRINCIPAL AXES: (T) VAL= 2.17; PLG=74; AZM=270; (N) VAL= 0.18; PLG= 4; AZM= 14; (P) VAL= -2.34; PLG=15; AZM=105								
	BEST DOUBLE COUPLE: Mo= 2.3*10**24; NP1: STRIKE=200; DIP=30; SLIP= 98; NP2: STRIKE= 11; DIP=60; SLIP= 86								
01	12 23 08.3*	65.299 N	156.458 W	33 N			1.0	5	ALASKA. ML 3.3 (PMR).
01	14 29 39.7&	35.767 N	117.733 W	5 G				7	CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
01	14 30 17.5	10.605 S	162.302 E	33 N	4.6	5.1	0.7	11	SOLOMON ISLANDS
01	14 59 05.6	6.753 N	73.041 W	163		4.5	0.9	23	NORTHERN COLOMBIA. Felt in the Bucaramanga-San Gil area.
01	16 00 29.1	41.934 N	19.134 E	16		4.5	1.0	35	ALBANIA. ML 4.3 (SKO), 3.6 (TIR).
01	16 17 22.1	39.335 N	22.870 E	10 G			0.9	11	GREECE. ML 3.2 (ATH).
01	17 42 24.9	31.583 N	71.410 E	33 N	5.2	4.9	0.9	101	PAKISTAN
01	17 46 49.5	15.852 S	167.417 E	33 N	5.2	5.3	1.3	83	VANUATU ISLANDS
	CMTS: (HRV) B050182B DATA: GDSN ; L.P. BODY WAVES: 11S, 26C, T= 45;								
	CENTROID LOCATION OT 17:46:57.2 0.3; LAT 15.95S 0.05; LON 166.90E 0.04; DEP 54.0 3.0; HALF-DURATION 3.0								
	MT: Scale 10**24 d-cm; MRR= 1.73 0.07; MTT= 0.59 0.14; MFF=-2.32 0.13; MRT=-0.69 0.14; MRF= 0.38 0.15; MTF= 0.65 0.11								
	PRINCIPAL AXES: (T) VAL= 2.05; PLG=65; AZM=182; (N) VAL= 0.47; PLG=24; AZM=344; (P) VAL= -2.52; PLG= 7; AZM= 77								
	BEST DOUBLE COUPLE: Mo= 2.3*10**24; NP1: STRIKE=191; DIP=43; SLIP= 126; NP2: STRIKE=327; DIP=56; SLIP= 61								
01	18 13 24.7*	2.686 N	128.519 E	232		4.6	0.9	11	HALMAHERA
01	19 11 28.7*	37.639 N	21.492 E	10 G		4.0	1.3	10	SOUTHERN GREECE. ML 3.6 (ATH).
01	19 35 07.9	27.607 S	67.556 W	166			1.1	8	CATAMARCA PROVINCE, ARGENTINA
01	21 32 03.1*	20.090 N	121.280 E	44		4.7	1.1	22	PHILIPPINE ISLANDS REGION
01	22 28 37.5	5.656 N	126.260 E	111		4.9	1.0	37	MINDANAO, PHILIPPINE ISLANDS
02	00 32 13.4*	10.357 S	28.495 E	33 N	3.8		1.0	7	ZAIRE REPUBLIC
02	03 26 06.4	27.737 S	69.279 W	128		4.2	1.0	14	NORTHERN CHILE
02	03 27 44.5	41.892 N	19.999 E	10 G	4.3		1.3	75	ALBANIA. ML 4.3 (TIR), 4.0 (ATH). Felt (VI).
02	07 12 44.5	43.613 N	28.940 W	10 G	5.4	5.2	0.9	197	NORTH ATLANTIC RIDGE. Ms 5.7 (BRK), 5.5 (PAS).
02	07 19 42.3&	35.767 N	117.733 W	4 G				13	CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
02	07 39 30.5*	33.784 S	15.030 W	10 G	4.7		1.0	14	SOUTH ATLANTIC RIDGE
02	11 19 38.0	29.318 S	177.151 W	25	6.0	6.5	1.3	155	KERMADEC ISLANDS. Ms 6.6 (BRK), 6.3 (PAS).
	FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE= 10; DIP=60; SLIP= 90. NP2: STRIKE=190; DIP=30; SLIP= 90								
	PRINCIPAL AXES: (T) PLG=75; AZM=280. (P) PLG=15; AZM=100								
	Poorly controlled reverse fault type mechanism. NP2 designated as the fault plane.								
	CMTS: (HRV) C050282A DATA: GDSN ; L.P. BODY WAVES: 13S, 39C, T= 45; MANTLE WAVES: 9S, 27C, T=135								
	CENTROID LOCATION OT 11:19:46.7 0.2; LAT 29.21S 0.02; LON 176.72W 0.02; DEP 20.4 0.9; HALF-DURATION 5.0								
	MT: Scale 10**25 d-cm; MRR= 3.98 0.05; MTT=-0.19 0.06; MFF=-3.79 0.06; MRT=-0.23 0.14; MRF= 2.01 0.20; MTF=-1.12 0.05								
	PRINCIPAL AXES: (T) VAL= 4.52; PLG=74; AZM=247; (N) VAL= 0. ; PLG= 9; AZM= 12; (P) VAL= -4.52; PLG=13; AZM=104								
	BEST DOUBLE COUPLE: Mo= 4.5*10**25; NP1: STRIKE=206; DIP=33; SLIP= 107; NP2: STRIKE= 6; DIP=58; SLIP= 79								
02	12 50 17.4	29.420 S	177.062 W	33 N	5.0		1.5	16	KERMADEC ISLANDS
02	13 24 58.3	3.776 S	140.049 E	33 N	5.0		1.1	33	WEST IRIAN
02	13 25 39.5	29.564 S	176.769 W	33 N	5.2		1.3	27	KERMADEC ISLANDS REGION
02	13 37 53.8&	37.033 N	121.490 W	6 G				13	CENTRAL CALIFORNIA. <BRK>. ML 3.1 (BRK). Felt at San Jose.
02	14 16 47.6	29.656 S	176.688 W	33 N	5.0	5.2	1.4	26	KERMADEC ISLANDS REGION
02	14 39 20.3	12.025 S	167.077 E	198	5.0		1.0	60	SANTA CRUZ ISLANDS
02	15 35 58.6	60.119 N	141.180 W	13	5.0	5.1	0.8	150	SOUTHEASTERN ALASKA. ML 5.4 (PMR).
02	15 42 21.5*	59.855 N	141.198 W	15 G			1.5	11	SOUTHEASTERN ALASKA. ML 4.5 (PMR).

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02	15	54	03.3*	59.982	N	141.232	W	15	G			1.1	12	SOUTHEASTERN ALASKA. ML 4.1 (PMR).
02	16	05	09.2	42.767	N	13.361	E	10	G			0.8	7	CENTRAL ITALY. ML 2.7 (RMP).
02	16	11	57.3*	59.968	N	141.272	W	15	G			0.9	10	SOUTHEASTERN ALASKA. ML 3.3 (PMR).
02	16	20	11.0	29.658	S	176.904	W	33	N			1.4	14	KERMADEC ISLANDS REGION
02	16	24	50.6*	59.998	N	141.246	W	15	G			1.0	10	SOUTHEASTERN ALASKA. ML 3.6 (PMR).
02	16	31	59.5*	60.053	N	141.147	W	15	G	3.7		1.2	12	SOUTHEASTERN ALASKA. ML 3.7 (PMR).
02	16	46	28.9*	2.304	N	126.600	E	78		4.5		0.9	10	MOLUCCA PASSAGE
02	16	55	39.9	29.963	N	95.112	E	33	F	4.3		1.6	17	INDIA-CHINA BORDER REGION
02	17	00	26.9*	60.134	N	141.157	W	15	G	4.5		1.2	42	SOUTHEASTERN ALASKA. ML 5.0 (PMR).
02	17	08	51.9	42.946	N	12.930	E	10	G			1.6	9	CENTRAL ITALY. ML 3.4 (RMP).
02	17	09	11.6	47.186	N	10.026	E	9				0.8	12	AUSTRIA. ML 3.0 (GRF), 2.5 (FUR).
02	17	13	37.8*	60.090	N	141.152	W	15	G	4.5	4.4	1.0	45	SOUTHEASTERN ALASKA. ML 4.4 (PMR).
02	17	34	08.6*	42.866	N	13.043	E	9				0.4	5	CENTRAL ITALY
02	17	57	12.7*	52.247	N	168.961	W	37		4.6		1.3	23	FOX ISLANDS, ALEUTIAN ISLANDS
02	18	45	10.5	29.376	S	177.121	W	33	N	5.2	5.2	1.4	41	KERMADEC ISLANDS
02	19	23	29.0*	60.054	N	141.133	W	15	G	3.7		1.1	14	SOUTHEASTERN ALASKA. ML 4.1 (PMR).
02	20	27	53.4*	40.563	N	19.369	E	10	G			1.2	5	ALBANIA. ML 3.2 (TIR). Felt.
03	00	55	55.0	40.451	N	19.485	E	10	G			1.0	22	ALBANIA. ML 3.7 (ATH), 3.6 (TIR). Felt (IV).
03	00	57	49.2	11.868	N	143.585	E	33	N	5.1		1.1	38	SOUTH OF MARIANA ISLANDS
03	03	27	17.7	13.494	S	76.106	W	70		5.4		1.0	114	NEAR COAST OF PERU
03	04	10	03.5	41.183	N	46.198	E	33	N	5.2	4.7	1.0	159	EASTERN CAUCASUS. Felt (V) at Goris.
03	04	35	06.6	43.305	N	18.786	E	10	G			1.5	17	YUGOSLAVIA. ML 4.1 (TRI), 4.0 (TIR).
03	05	21	45.8?	59.88	N	141.18	W	15	G			0.7	7	SOUTHEASTERN ALASKA. ML 3.9 (PMR).
03	05	29	17.2*	29.803	S	177.287	W	33	N	5.0		1.4	13	KERMADEC ISLANDS
03	07	26	02.5	23.467	S	68.814	W	107	D	5.5		1.1	144	NORTHERN CHILE. Felt (IV) in the Antofagasta area.
03	07	54	50.0&	34.070	N	96.380	W	5	G				8	OKLAHOMA. <TUL>. mblg 3.0 (TUL). Felt (V) at Durant.
03	08	04	00.7*	42.803	N	12.802	E	10	G			0.8	6	CENTRAL ITALY. ML 2.6 (RMP).
03	08	23	59.0&	33.950	N	118.767	W	14	G				11	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
03	10	14	14.2	60.117	N	141.115	W	11		5.0	4.7	1.0	110	SOUTHEASTERN ALASKA. ML 5.1 (PMR). Felt (IV) at Icy Bay and (III) at Yakutat.
03	10	29	08.1*	59.990	N	141.135	W	15	G	4.3		1.2	19	SOUTHEASTERN ALASKA. ML 3.8 (PMR).
03	12	12	03.5*	59.886	N	141.083	W	15	G			1.1	9	SOUTHEASTERN ALASKA. ML 3.7 (PMR).
03	14	43	55.8?	3.20	S	177.18	E	33	N	4.9		1.0	12	GILBERT ISLANDS REGION
03	15	17	26.1*	60.027	N	141.143	W	15	G	4.2		1.1	27	SOUTHEASTERN ALASKA. ML 4.6 (PMR). Felt (III) at Yakutat.
03	16	22	00.3	8.046	S	107.918	E	78		5.3		1.0	91	JAVA
03	16	41	46.6	2.172	S	99.821	E	33	N	4.2		1.1	9	SOUTHERN SUMATERA
03	17	20	49.3	5.962	N	125.690	E	72		5.1		1.4	41	MINDANAO, PHILIPPINE ISLANDS
03	17	52	21.5*	20.423	S	178.087	W	566		4.8		1.1	29	FIJI ISLANDS REGION
03	20	13	46.5	5.932	S	105.871	E	114		4.9		1.1	36	SUNDA STRAIT
03	20	45	24.9*	59.936	N	141.089	W	15	G			1.3	10	SOUTHEASTERN ALASKA. ML 4.0 (PMR).
03	22	20	21.7*	61.386	N	146.872	W	33	N			1.3	12	SOUTHERN ALASKA. ML 2.9 (PMR).
04	01	09	32.7	13.094	E	88.352	W	75		4.9		1.1	28	EL SALVADOR. Felt (III).
04	03	43	38.9	44.601	N	17.556	E	10	G			1.2	9	YUGOSLAVIA. ML 2.6 (TRI).
04	05	28	53.2*	59.991	N	141.162	W	15	G	4.0		1.1	22	SOUTHEASTERN ALASKA. ML 4.5 (PMR).
04	07	02	58.4	31.227	S	68.754	W	128				1.2	9	SAN JUAN PROVINCE, ARGENTINA
04	09	35	34.9	60.254	N	152.573	W	129		4.4		0.7	28	SOUTHERN ALASKA
04	11	31	50.7&	24.524	N	121.583	E	33	N			1.1	8	TAIWAN
04	13	01	31.4	18.507	S	177.918	W	534		5.3		1.0	31	FIJI ISLANDS REGION
04	14	07	49.2	37.618	N	21.300	E	10	G	4.3		1.3	14	SOUTHERN GREECE. ML 3.9 (ATH).
04	20	28	49.4	33.834	N	137.122	E	363		4.0		0.5	16	NEAR S. COAST OF HONSHU, JAPAN
04	20	44	40.7	39.371	N	25.563	E	10	G			1.1	7	AEGEAN SEA. ML 3.2 (ATH).
04	22	36	11.3	39.802	N	19.899	E	10	G	3.5		1.3	17	GREECE-ALBANIA BORDER REGION. ML 3.7 (ATH), 3.5 (TIR). Felt (IV) in southern Albania.
04	23	01	01.9*	59.967	N	141.156	W	15	G	3.8		1.2	12	SOUTHEASTERN ALASKA. ML 3.9 (PMR).
04	23	08	27.8	43.212	N	13.252	E	10	G			0.9	7	CENTRAL ITALY. ML 2.6 (RMP).
05	01	15	22.6	39.415	N	22.202	E	10	G			0.7	11	GREECE. ML 2.9 (ATH).
05	01	16	02.3	7.090	N	76.476	W	33	N	4.4		1.2	22	NORTHERN COLOMBIA
05	01	58	33.5*	41.730	N	140.488	E	56		4.7		1.1	21	HOKKAIDO, JAPAN REGION
05	04	51	03.2	78.307	N	19.804	W	33	N	4.5		1.1	25	EASTERN GREENLAND
05	06	59	17.2	25.685	N	124.072	E	196		4.5		1.0	26	NORTHEAST OF TAIWAN
05	10	53	06.7	7.934	S	156.544	E	33	N			0.7	11	SOLOMON ISLANDS
05	12	00	41.7*	22.085	N	107.241	W	33	N	4.4		1.3	23	OFF COAST OF CENTRAL MEXICO
05	15	30	00.9	13.954	N	120.744	E	127		4.6		0.9	30	MINDORO, PHILIPPINE ISLANDS
05	17	42	21.1	5.575	S	146.418	E	68		4.1		1.0	10	EAST PAPUA NEW GUINEA REGION
05	19	49	54.3	61.252	N	149.748	W	63		4.8		0.8	131	SOUTHERN ALASKA. Felt (V) at Anchorage, Eagle River and Palmer. Felt (IV) at Chugiak, Cooper Landing, Hope, Kenai, Moose Pass, Nikishka, Sterling, Sutton, Talkeetna, Tyonek, Whittier and Willow.
05	22	53	19.8	37.610	N	21.385	E	10	G	4.5	4.0	1.2	49	SOUTHERN GREECE. ML 4.6 (TIR), 4.3 (ATH). Felt in the Pirgos area.
05	23	10	51.8	31.408	N	129.335	E	33	N	5.1	4.9	1.2	69	KYUSHU, JAPAN
05	23	27	34.7	13.964	N	120.754	E	127		4.3		1.1	22	MINDORO, PHILIPPINE ISLANDS
06	00	40	44.9*	6.601	S	155.443	E	33	N	4.1		1.1	11	SOLOMON ISLANDS
06	01	49	39.6	45.658	N	26.710	E	108				0.6	9	ROMANIA
06	02	26	42.6	26.810	N	126.150	E	172		3.9		0.7	11	RYUKYU ISLANDS
06	02	32	39.1	39.261	N	21.989	E	10	G	4.3		1.0	22	GREECE. ML 3.8 (TIR), 3.6 (ATH). Felt in the Kardhitsa area.
06	03	15	48.1	24.841	N	122.515	E	99		4.8		0.7	36	TAIWAN REGION
06	06	21	37.5*	50.685	N	29.692	W	10	G	4.4		1.2	27	NORTH ATLANTIC RIDGE
06	14	08	16.1&	31.*50	N	115.950	W	6	G				4	BAJA CALIFORNIA. <PAS-P>. ML 3.4 (PAS).
06	15	13	56.8?	24.388	N	122.262	E	33	N			0.6	7	TAIWAN REGION
06	15	42	20.7	40.068	N	71.542	E	33	N	5.5	5.6	0.9	196	TAJIK SSR. Minor damage (VII) in the Sokh-Kuybyshevo area.

CMTS: (HRV) B050682A DATA: GDSN ; L.P. BODY WAVES: 138, 32C, T= 45;
CENTROID LOCATION OT 15:43:26.2 0.7; LAT 40.44N 0.07; LON 71.17E 0.09; DEP 49.2 5.2; HALF-DURATION 3.0
MT: Scale 10**24 d-cm; MRR= 2.34 0.15; MTT=-3.31 0.23; MFF= 0.97 0.16; MRT=-1.15 0.23; MRF=-0.38 0.20; MTF= 0.39 0.21
PRINCIPAL AXES: (T) VAL= 2.69; PLG=71; AZM=128; (N) VAL= 0.87; PLG=15; AZM=271; (P) VAL= -3.56; PLG=11; AZM= 4
BEST DOUBLE COUPLE: Mo= 3.1*10**24; NP1: STRIKE=112; DIP=37; SLIP= 116; NP2: STRIKE=261; DIP=57; SLIP= 72

06	16	28	07.0&	47.000	N	66.600	W	5	G			7	NEW BRUNSWICK. <OTT>. mblg 3.9.
06	16	37	43.5&	36.017	N	117.833	W	5	G			9	CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. ML 3.1 (PAS).
06	16	39	49.8	47.271	N	11.460	E	11				1.1	14	AUSTRIA. ML 3.4 (IBK). Felt (IV) in the Innsbruck area.
06	19	53	23.2	40.709	N	23.079	E	10	G	3.2		0.8	20	GREECE. ML 3.6 (ATH), 3.3 (TIR).

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06   20 00 00.0& 37.117 N  116.127 W    0 G  4.3                    18  SOUTHERN NEVADA. <DOE>. ML 4.4 (BRK). 37° 07' 00.62"
                                                                          N., 116° 07' 36.86" W., Surface Elev. 1390 m., Depth of
                                                                          Burial 335 m., Shot Time 200000.083, "KRYPDOST", Nevada
                                                                          Test Site (Dept. of Energy).
06   20 43 29.9   39.366 N   25.529 E   12              0.4    9  AEGEAN SEA. ML 3.4 (ATH).
06   21 50 19.8    0.678 S  123.386 E   60     4.8      1.4   26  MINAHASSA PENINSULA
07   00 43 38.4   51.842 N  177.577 W  101     4.3      0.8   27  ANDREANOF ISLANDS, ALEUTIAN IS. Felt (III) on Adak.
07   00 47 37.7? 37.22  N   20.96  E   10 G  3.5        1.1    7  IONIAN SEA. ML 3.2 (ATH).
07   01 03 12.5? 11.98  N   89.42  W   33 N  4.5        0.8   10  OFF COAST OF CENTRAL AMERICA. Felt (III) in El
                                                                          Salvador.
07   02 57 03.4    6.049 S  147.190 E   63     5.5      1.0  103  EAST PAPUA NEW GUINEA REGION
   CMTS:  (HRV) B050782A    DATA:  GDSN          ;  L.P. BODY WAVES:  10S, 25C, T= 45;
   CENTROID LOCATION    OT  2:57: 7.2 0.7;  LAT  6.10S 0.06;  LON 147.02E 0.11;  DEP  49.9 6.0;          HALF-DURATION  1.3
   MT: Scale 10**23 d-cm; MRR= 4.94 0.43; MTT=-4.16 0.44; MFF=-3.77 0.69; MRT= 0.18 0.85; MRF=-1.50 0.78; MTF= 1.17 0.56
   PRINCIPAL AXES:  (T) VAL=  5.31; PLG=76; AZM= 92;  (N) VAL= -0.74; PLG=13; AZM=290;  (P) VAL= -4.57;  PLG= 4; AZM=199
   BEST DOUBLE COUPLE:        Mo= 4.9*10**23;    NP1:  STRIKE=275; DIP=43; SLIP=  70;    NP2:  STRIKE=121; DIP=50; SLIP= 107
07   03 16 03.4   27.728 S   72.338 W   33 N  4.8      1.3   20  OFF COAST OF NORTHERN CHILE
07   05 16 26.9   60.438 N  153.453 W  175             0.8   25  SOUTHERN ALASKA
07   05 36 19.6    0.624 S  123.291 E   92     5.9      1.3   96  MINAHASSA PENINSULA
   CMTS:  (HRV) B050782B    DATA:  GDSN          ;  L.P. BODY WAVES:   6S, 18C, T= 45;
   CENTROID LOCATION    OT  5:36:23.8 0.6;  LAT  0.81S 0.07;  LON 123.39E 0.07;  DEP  36.0 5.5;          HALF-DURATION  2.5
   MT: Scale 10**24 d-cm; MRR= 3.59 0.28; MTT= 0.78 0.31; MFF=-4.38 0.43; MRT=-0.66 0.49; MRF= 2.36 0.45; MTF=-1.73 0.28
   PRINCIPAL AXES:  (T) VAL=  4.58; PLG=65; AZM=225;  (N) VAL=  0.81; PLG=20; AZM=  9;  (P) VAL= -5.39;  PLG=13; AZM=104
   BEST DOUBLE COUPLE:        Mo= 5.0*10**24;    NP1:  STRIKE=220; DIP=36; SLIP= 126;    NP2:  STRIKE=357; DIP=61; SLIP=  67
07   05 38 34.8   60.597 S   20.877 W   10 G  6.3 6.7    1.4   90  SOUTHWESTERN ATLANTIC OCEAN. Ms 6.5 (PAS).
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=188;  DIP=88;  SLIP= 180.   NP2:  STRIKE=278;  DIP=90;  SLIP=   2
        PRINCIPAL AXES:   (T)  PLG= 1;  AZM=143.   (P)  PLG= 1;  AZM= 53
                                                                          Moderately well controlled left lateral strike slip
                                                                          fault type mechanism. NP2 designated as the fault
                                                                          plane.
   CMTS:  (HRV) C050782C    DATA:  GDSN          ;  L.P. BODY WAVES:  21S, 61C, T= 45;   MANTLE WAVES:  12S, 34C, T=135
   CENTROID LOCATION    OT  5:38:42.7 0.1;  LAT 60.96S 0.02;  LON  20.62W 0.03;  DEP  10.0 FIX;          HALF-DURATION  5.0
   MT: Scale 10**26 d-cm; MRR=-0.20 0.03; MTT=-0.19 0.04; MFF= 0.38 0.04; MRT=-0.21 0.13; MRF=-2.13 0.14; MTF= 2.84 0.03
   PRINCIPAL AXES:  (T) VAL=  3.74; PLG=25; AZM=127;  (N) VAL= -0.39; PLG=53; AZM=359;  (P) VAL= -3.35;  PLG=25; AZM=229
   BEST DOUBLE COUPLE:        Mo= 3.6*10**26;    NP1:  STRIKE=268; DIP=53; SLIP=   0;    NP2:  STRIKE=358; DIP=90; SLIP=-143
07   06 56 12.3   13.761 N   90.638 W   66     4.4      1.0   38  NEAR COAST OF GUATEMALA
07   07 42 02.9   59.138 N  152.568 W   83     4.4      0.6   21  SOUTHERN ALASKA
07   07 44 15.3   32.611 N   75.887 E   33 N  4.8        0.7   30  KASHMIR-INDIA BORDER REGION
07   11 06 17.2   42.635 N   18.856 E   10 G              1.1   24  YUGOSLAVIA. ML 4.2 (TRI).
07   12 17 41.7*  37.660 N  118.904 W    5 G              1.1   14  CALIFORNIA-NEVADA BORDER REGION. ML 3.2 (BRK). Felt in
                                                                          the Mammoth Lakes, California area.
07   12 29 53.4*  37.661 N  118.938 W    5 G              0.9   12  CALIFORNIA-NEVADA BORDER REGION. ML 3.3 (BRK). Felt in
                                                                          the Mammoth Lakes, California area.
07   12 44 38.8*  37.654 N  118.939 W    5 G              1.0    7  CALIFORNIA-NEVADA BORDER REGION. ML 3.0. Felt in the
                                                                          Mammoth Lakes, California area.
07   14 48 09.6? 18.328 N  100.323 W   55                0.9   11  GUERRERO, MEXICO
07   15 43 32.2& 35.767 N  117.733 W    7 G                    7  CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
07   15 54 30.8*  30.713 S  179.384 W  286     5.1      1.2    9  KERMADEC ISLANDS REGION
07   17 14 41.4   32.315 N  141.334 E   33 N  4.8        0.6   17  SOUTH OF HONSHU, JAPAN
07   18 17 00.16  37.069 N  116.045 W    0 G  5.7 4.2           228  SOUTHERN NEVADA. <DOE>. ML 5.4 (BRK), 5.6 (PAS). 37°
                                                                          04' 08.62" N., 116° 02' 43.67" W., Surface Elev. 1244
                                                                          m., Depth of Burial 564 m., Shot Time 181700.110,
                                                                          "BOUSCHET", Nevada Test Site (Dept. of Energy).
07   19 12 30.9   42.406 N   18.635 E   10 G  3.0        1.1   11  YUGOSLAVIA. ML 4.2 (TRI).
07   19 53 07.3   51.221 N   15.305 E   13               0.9   16  POLAND
07   22 26 34.3& 35.633 N  120.983 W   24 G                   10  CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
07   23 42 03.8* 51.450 N   10.470 E   10 G              0.4    7  GERMANY. ML 2.6 (GRF), 2.2 (CLL).
08   00 21 58.7    8.862 N  127.062 E   33 N  4.8        1.2   21  PHILIPPINE ISLANDS REGION
08   00 52 21.6? 53.54  N  171.32  E   33 N  4.3        1.2    8  NEAR ISLANDS, ALEUTIAN ISLANDS
08   00 59 52.8* 51.651 N  176.188 E   33 N  4.7        0.9   29  RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.8 (PMR).
08   01 25 15.2    1.691 S   78.006 W  171     4.9      0.7   81  ECUADOR
08   01 27 23.3? 51.64  N  176.16  E   33 N  4.4        1.1    7  RAT ISLANDS, ALEUTIAN ISLANDS
08   03 57 12.5& 37.643 N  118.933 W    5 G                   18  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.7 (BRK).
08   05 12 19.6? 16.00  S   75.44  W   33 N  4.3        1.0    5  NEAR COAST OF PERU
08   05 51 46.6& 15.093 N   61.246 W   33 N              0.8    6  LEEWARD ISLANDS
08   06 10 23.8& 15.094 N   61.218 W   33 N              0.4    5  LEEWARD ISLANDS
08   06 19 02.0    2.044 S   79.712 W   97     4.9      0.9   39  NEAR COAST OF ECUADOR
08   10 25 35.8   20.191 S  178.326 W  562     4.7      1.2   34  FIJI ISLANDS REGION
08   11 20 14.8? 3.36  S  177.37  E   33 N  4.7        0.5   16  GILBERT ISLANDS REGION
08   14 43 31.0   42.404 N  141.225 E  113     5.1      1.0  103  HOKKAIDO, JAPAN  REGION
08   16 41 08.3   70.914 N    6.163 W   10 G  5.1 4.7    1.0  117  JAN MAYEN ISLAND REGION
08   17 19 02.0    8.783 S  124.155 E  135     5.2      1.4   41  TIMOR
08   18 10 31.9*  6.151 S  147.344 E   67     3.5      0.4    6  EAST PAPUA NEW GUINEA REGION
08   21 10 01.2& 23.514 N  120.834 E   33 N              1.1    6  TAIWAN
08   22 47 41.0   35.329 N  140.845 E   58     4.8      1.0   44  NEAR EAST COAST OF HONSHU, JAPAN
09   01 08 23.6   39.535 N   23.616 E   10 G              0.6    7  AEGEAN SEA. ML 2.9 (ATH).
09   02 25 56.5   42.404 N   18.515 E   10 G  2.8        0.7    6  YUGOSLAVIA. ML 3.4 (TRI), 3.1 (TIR).
09   03 10 53.7   23.531 N  120.921 E   33 N              1.7   17  TAIWAN
09   03 49 54.7* 52.148 N  170.567 W   35     4.4        1.0   34  FOX ISLANDS, ALEUTIAN ISLANDS
09   04 38 56.8    1.517 S   15.660 W   10 G  4.9 4.7    0.9   56  NORTH OF ASCENSION ISLAND
09   05 19 50.4   37.481 N   71.747 E   83     4.5        0.5   13  AFGHANISTAN-USSR BORDER REGION
09   06 07 53.5   18.373 N  146.325 E   72     4.7        1.0   31  MARIANA ISLANDS
09   06 22 19.2& 35.683 N  118.100 W    4 G                    6  CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
09   07 05 44.0& 37.597 N  118.917 W    5 G                   13  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.3 (BRK).
09   07 07 53.4& 37.630 N  118.960 W    5 G                   12  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.4 (BRK).
09   07 28 44.8   19.902 N  120.645 E   26     4.9        1.0   37  PHILIPPINE ISLANDS REGION
09   07 39 00.6   45.709 N  149.911 E   98 D  4.6        0.8   33  KURIL ISLANDS
09   07 53 19.1* 32.260 N   40.944 W   10 G  4.8        0.6   17  NORTH ATLANTIC RIDGE
09   07 59 31.4* 51.031 N   14.794 E   10 G              1.0    9  GERMANY. ML 3.5 (GRF).
09   08 37 08.7? 15.951 N   60.789 W   33 N              1.1   10  LEEWARD ISLANDS
09   09 01 36.2   43.506 N   84.788 E   33 N  4.7        0.7   23  NORTHERN SINKIANG PROV., CHINA
09   09 32 48.0*  62.021 N  151.378 W  100               0.6   11  CENTRAL ALASKA
09   09 40 01.7   12.021 N  143.193 E   33 N  4.6        0.8   13  SOUTH OF MARIANA ISLANDS
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09   09 46 44.9& 35.817 N  117.750 W    4 G                          9  CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
09   10 00 56.6  10.734 S   94.507 E   10 G  5.5        1.0   17  SOUTH INDIAN OCEAN
09   12 39 25.7? 29.98  S   75.53  E   10 G  5.3        0.8   14  MID-INDIAN RISE
09   12 41 17.6  12.731 N  143.578 E  117     4.9        0.9   32  SOUTH OF MARIANA ISLANDS
09   16 00 09.8% 47.764 N    1.203 W   10 G              1.1    8  FRANCE. ML 3.1 (LDG).
09   16 11 19.1  40.300 N   71.616 E   33 N  4.5        0.5   10  TAJIK SSR. Felt in the Fergana area.
09   16 11 51.6? 17.07  N   94.06  W  157               0.7    9  CHIAPAS, MEXICO
09   19 29 32.2  40.488 N   23.615 E   10 G              0.8    9  GREECE
09   19 29 47.8  19.191 N   60.864 W   33 N  5.0 4.8     1.0  124  LEEWARD ISLANDS
09   20 11 33.9  18.613 N  145.601 E  589     4.7        0.8   46  MARIANA ISLANDS
09   22 48 21.0  35.847 N   26.239 E  123     4.2        0.9   32  CRETE
10   01 25 56.8  10.664 N   62.532 W   97 D  5.3        0.9  185  NEAR COAST OF VENEZUELA. Felt on St. Vincent.
10   04 05 49.4  39.854 N  138.605 E   53     4.7        0.9   35  EASTERN SEA OF JAPAN
10   04 20 52.5? 6.50  S  130.17  E  129     4.6        1.6   10  BANDA SEA
10   05 17 57.3? 28.41  N  128.23  E  141     4.1        1.0    9  RYUKYU ISLANDS
10   07 11 43.9  30.267 S   75.419 E   10 G  5.3        0.6   10  MID-INDIAN RISE
10   08 41 03.7* 3.007  S  140.439 E   33 N  3.5        1.1    7  WEST IRIAN
10   09 08 22.3* 24.050 S   69.559 E   10 G  4.8        0.6    9  MID-INDIAN RISE
10   09 45 57.7   2.805 S  141.979 E   33 N  4.4        0.9   17  NEAR N COAST OF PAPUA NEW GUINEA
10   11 40 46.5   3.311 S  177.391 E   33 N  4.8        0.9   34  GILBERT ISLANDS REGION
10   12 29 39.1* 42.808 N   24.148 E   10 G              1.3    6  BULGARIA
10   12 47 27.9   8.669 S   31.011 E   33 N  4.0        1.2   10  LAKE TANGANYIKA REGION
10   13 44 26.7* 44.626 N   28.256 W   10 G  4.3        1.4   19  NORTH ATLANTIC RIDGE
10   14 04 19.4   7.379 S  123.749 E  571     5.3        1.0  157  BANDA SEA
     CMTS:  (HRV) B051082A    DATA:  GDSN              ;  L.P. BODY WAVES:  10S, 25C, T= 45;
     CENTROID LOCATION    OT 14: 4:21.3 0.9;  LAT  7.57S 0.07;  LON 123.74E 0.09;  DEP 566.1 5.9;        HALF-DURATION  2.0
     MT: Scale 10**23 d-cm; MRR=-8.17 0.60; MTT= 0.60 0.74; MFF= 7.57 0.84; MRT= 1.67 0.82; MRF=-0.63 0.90; MTF=-1.43 0.87
     PRINCIPAL AXES:  (T) VAL=  7.91; PLG= 3; AZM= 78;  (N) VAL=  0.57; PLG=10; AZM=348;  (P) VAL= -8.49;  PLG=79; AZM=186
     BEST DOUBLE COUPLE:       Mo= 8.2*10**23;    NP1:  STRIKE=179; DIP=43; SLIP= -75;    NP2:  STRIKE=339; DIP=49; SLIP=-104
10   16 08 21.5% 23.810 N  121.693 E   33 N              0.3    5  TAIWAN
10   16 14 06.46 37.630 N  118.948 W    5 G                      12  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.1 (BRK).
10   16 38 55.7  11.329 N   85.889 W   66     4.7        0.9   39  NICARAGUA
10   18 10 57.26 36.623 N  121.283 W    4 G                      12  CENTRAL CALIFORNIA. <BRK>. ML 3.0 (BRK).
10   18 13 51.46 36.635 N  121.283 W    3 G                      12  CENTRAL CALIFORNIA. <BRK>. ML 3.1 (BRK).
10   19 19 01.4  33.490 N  135.565 E   22     5.0        0.9   57  NEAR S. COAST OF SOUTHERN HONSHU
10   20 47 27.26 19.175 N  155.598 W   10 G                      10  HAWAII. <HVO-P>. ML 4.2 (HVO). Felt.
10   21 36 43.2* 46.308 N   14.399 E   10 G              1.0    7  YUGOSLAVIA. ML 3.5 (FUR), 1.8 (TRI).
10   22 29 32.1  20.403 S  168.770 E   37 D  4.9        1.3   76  LOYALTY ISLANDS
10   23 05 16.3  72.384 N    0.983 E   10 G  4.5        1.2   56  NORWEGIAN SEA
11   02 00 22.0* 45.598 N   26.464 E  157               0.7    5  ROMANIA
11   02 06 09.4* 17.702 S  175.392 W  184     4.8        0.6    8  TONGA ISLANDS
11   04 24 37.0? 51.74  N   16.50  E   10 G              0.3    6  POLAND
11   04 26 24.3* 42.379 N   18.840 E   10 G              1.4    7  YUGOSLAVIA. ML 3.6 (TIR).
11   04 35 50.8  15.745 S  168.098 E   33 N  4.6        1.2   23  VANUATU ISLANDS
11   05 09 06.6* 15.580 S  168.332 E   33 N  4.5        1.2    9  VANUATU ISLANDS
11   06 56 36.8* 22.860 N  121.057 E   10 G              0.1    5  TAIWAN REGION
11   10 04 40.1* 4.511  S  130.086 E   85     4.4        1.2   16  BANDA SEA
11   10 16 45.4? 13.39  N   91.68  W   33 N              0.9   10  NEAR COAST OF GUATEMALA
11   10 23 58.2* 36.852 N   28.528 E   12     4.3        0.9   12  DODECANESE ISLANDS
11   11 07 05.6* 38.962 N   19.988 E   33 N  4.0        1.0    6  IONIAN SEA. ML 3.8 (ATH).
11   11 38 10.8  46.872 N  153.952 E   37 D  5.0 4.1     0.9   83  KURIL ISLANDS
11   13 00 08.5? 3.52  S   177.40  E   32 D  4.6        0.7   14  GILBERT ISLANDS REGION
11   14 24 51.6* 42.347 N  142.365 E   33 N  4.4        1.2   13  HOKKAIDO, JAPAN  REGION
11   14 45 42.6   3.963 S  152.727 E   33 N  5.0        1.1   19  NEW IRELAND REGION
11   15 00 21.7* 6.685  N   82.784 W   10 G  4.3        1.2   10  SOUTH OF PANAMA
11   15 37 09.0* 57.756 N  154.071 W   86     4.4        1.1   18  KODIAK ISLAND REGION
11   19 56 56.4? 23.20  N  122.14  E   10 G              0.7    6  TAIWAN REGION
11   20 46 59.4   7.706 S  128.452 E   33 N  5.7 5.0     1.3  135  BANDA SEA
     CMTS:  (HRV) B051182A    DATA:  GDSN              ;  L.P. BODY WAVES:  15S, 41C, T= 45;
     CENTROID LOCATION    OT 20:47: 7.7 0.4;  LAT  7.58S 0.04;  LON 128.19E 0.06;  DEP  39.8 4.0;        HALF-DURATION  3.0
     MT: Scale 10**24 d-cm; MRR=-2.00 0.16; MTT= 2.30 0.20; MFF=-0.31 0.27; MRT= 4.86 0.42; MRF= 0.50 0.23; MTF=-0.13 0.18
     PRINCIPAL AXES:  (T) VAL=  5.47; PLG=33; AZM=358;  (N) VAL= -0.26; PLG= 4; AZM=266;  (P) VAL= -5.21;  PLG=57; AZM=170
     BEST DOUBLE COUPLE:       Mo= 5.3*10**24;    NP1:  STRIKE=103; DIP=12; SLIP= -72;    NP2:  STRIKE=265; DIP=78; SLIP= -94
11   22 14 21.4? 22.85  S  173.53  E   33 N  4.6        1.0    6  LOYALTY ISLANDS REGION
11   22 37 29.8& 36.620 N  121.295 W    5 G                      17  CENTRAL CALIFORNIA. <BRK>. ML 3.6 (BRK). Felt.
12   00 05 20.2& 35.750 N  117.733 W    5 G                       8  CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
12   02 05 00.5   9.630 S  118.341 E   33 N  4.8        1.2   33  SUMBAWA ISLAND REGION
12   02 35 01.9* 17.616 S  178.574 W  527     4.6        1.2   23  FIJI ISLANDS REGION
12   02 54 41.5* 32.321 S   70.394 W   10 G              1.3    8  CHILE-ARGENTINA BORDER REGION
12   03 25 22.5* 3.324  S  177.397 E   33 N  5.0        0.8   47  GILBERT ISLANDS REGION
12   03 37 10.5* 32.651 N  139.830 E  140     4.5        0.7    8  SOUTH OF HONSHU, JAPAN
12   05 07 35.3* 31.444 S   69.213 W  124               1.4    6  SAN JUAN PROVINCE, ARGENTINA
12   06 42 31.0  10.228 S  160.644 E   35     5.3 4.8     1.1   58  SOLOMON ISLANDS
12   06 49 23.8   5.535 S  150.277 E  143     5.3        1.0   70  NEW BRITAIN REGION
12   06 54 44.5* 10.541 S  160.265 E   33 N  4.9        0.9   11  SOLOMON ISLANDS
12   07 04 26.0* 31.469 S   69.152 W  102               1.6    8  SAN JUAN PROVINCE, ARGENTINA
12   07 12 09.7  32.588 S   70.142 W  107     3.9        0.9   17  CHILE-ARGENTINA BORDER REGION
12   08 21 24.9? 18.45  S  173.82  W   33 N  4.8        1.2    8  TONGA ISLANDS
12   09 09 15.4? 17.77  S   73.78  W   33 N              1.3    6  OFF COAST OF PERU
12   10 03 30.8  24.636 S  179.223 E  532 D  5.6        1.0  257  SOUTH OF FIJI ISLANDS
     CMTS:  (HRV) B051282A    DATA:  GDSN              ;  L.P. BODY WAVES:  12S, 32C, T= 45;
     CENTROID LOCATION    OT 10: 3:41.9 0.3;  LAT 24.64S 0.03;  LON 179.08E 0.03;  DEP 559.8 1.7;        HALF-DURATION  3.0
     MT: Scale 10**24 d-cm; MRR= 0.75 0.15; MTT=-4.22 0.24; MFF= 3.47 0.20; MRT=-5.28 0.20; MRF=-5.57 0.22; MTF=-1.59 0.20
     PRINCIPAL AXES:  (T) VAL=  8.24; PLG=42; AZM=105;  (N) VAL=  0.95; PLG=27; AZM=223;  (P) VAL= -9.19;  PLG=36; AZM=334
     BEST DOUBLE COUPLE:       Mo= 8.7*10**24;    NP1:  STRIKE=126; DIP=28; SLIP= 173;    NP2:  STRIKE=221; DIP=87; SLIP=  63
12   10 03 36.8  31.621 S   58.221 E   10 G  5.3 4.6     1.0   74  ATLANTIC-INDIAN RISE
12   10 26 47.0? 3.33  S  177.33  E   33 N  4.6        0.6   18  GILBERT ISLANDS REGION
12   11 16 27.8* 43.368 N  126.693 W   10 G  4.4        0.6   21  OFF COAST OF OREGON
12   11 28 42.0* 4.474  S  102.831 E   77     4.7        1.3   17  SOUTHERN SUMATERA
12   11 52 43.8  21.317 S   68.567 W  149               1.1    6  CHILE-BOLIVIA BORDER REGION
12   12 23 59.5* 12.654 N   89.423 W   33 N  4.5        1.2   17  OFF COAST OF CENTRAL AMERICA
12   12 41 49.0  30.500 S  177.839 W   33 D  5.3        1.3   54  KERMADEC ISLANDS
12   12 51 02.1* 30.327 S  177.817 W   33 N  5.4        1.6   11  KERMADEC ISLANDS
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12	13	06	51.7	6.952	N	77.955	W	33	N	4.8	3.8	1.0	46	NEAR WEST COAST OF COLOMBIA
12	16	04	07.1	45.624	N	26.426	E	148		4.0		1.2	25	ROMANIA
12	19	29	24.5	37.271	N	115.080	W	10	G			0.5	27	SOUTHERN NEVADA. ML 4.0 (BRK).
12	21	07	04.5	10.259	S	160.718	E	33	N	4.7		1.1	18	SOLOMON ISLANDS
12	21	09	12.6*	29.012	N	132.493	E	33	N	4.2		1.6	15	SOUTHEAST OF SHIKOKU, JAPAN
12	21	52	39.4*	35.671	N	139.667	E	82				0.4	6	NEAR S. COAST OF HONSHU, JAPAN
13	00	25	39.2*	23.691	N	122.579	E	10	G			0.3	6	TAIWAN REGION
13	01	25	58.2?	12.63	N	143.31	E	92		4.5		0.5	15	SOUTH OF MARIANA ISLANDS
13	03	24	47.3?	6.11	S	151.42	E	33	N	4.0			8	NEW BRITAIN REGION
13	04	52	46.1?	36.03	N	25.31	E	123		4.0		0.9	16	DODECANESE ISLANDS
13	05	18	28.4?	52.09	N	169.39	W	33	N	3.8		1.3	7	FOX ISLANDS, ALEUTIAN ISLANDS
13	06	17	18.9*	31.230	S	68.738	W	117				1.0	7	SAN JUAN PROVINCE, ARGENTINA
13	06	47	20.3	33.032	S	69.018	W	79				0.7	9	CHILE-ARGENTINA BORDER REGION
13	08	00	49.5*	39.750	N	67.477	E	33	N	4.4		0.4	13	SOUTHEASTERN UZBEK SSR
13	09	09	17.8	21.120	S	68.851	W	108	D	4.6		1.3	33	CHILE-BOLIVIA BORDER REGION
13	11	47	55.1	5.912	S	127.781	E	410		4.9		1.1	30	BANDA SEA
13	12	50	59.2?	16.93	N	62.06	W	33	N			0.6	5	LEEWARD ISLANDS
13	13	24	53.1*	18.063	S	176.951	W	33	N	4.7		1.3	22	FIJI ISLANDS REGION
13	14	05	23.7	6.721	S	129.701	E	191		5.1		1.1	61	BANDA SEA
13	14	50	32.5	20.441	S	168.889	E	31	D	5.1	4.7	1.2	87	LOYALTY ISLANDS
13	16	52	16.9*	17.797	S	178.486	W	516		4.5		1.1	26	FIJI ISLANDS REGION
13	16	53	06.06	48.700	N	123.620	W	17	G				7	VANCOUVER ISLAND REGION. <PGC>. ML 3.0 (PGC). Felt on southern Vancouver Island from Saltspring Island to Sooke.
13	15	58	23.2	4.312	S	152.328	E	123		4.5		1.3	12	NEW BRITAIN REGION
13	15	59	05.5?	3.53	S	131.21	E	33	N	3.9		0.9	8	WEST IRIAN REGION
13	20	44	51.2*	3.605	N	82.873	W	10	G	4.7		1.1	11	SOUTH OF PANAMA
13	21	26	07.6	12.406	S	166.782	E	196	D	4.9		0.9	67	SANTA CRUZ ISLANDS
13	21	32	29.2*	1.944	S	138.445	E	33	N	4.7		1.3	14	NEAR N. COAST OF WEST IRIAN
13	21	38	43.4	49.272	N	151.383	E	266	D	4.8		0.8	104	NORTHWEST OF KURIL ISLANDS
13	22	16	39.2*	3.643	N	82.879	W	10	G	4.6		0.9	14	SOUTH OF PANAMA
13	22	53	40.0*	2.723	N	84.610	W	25	D	4.8		1.0	23	OFF COAST OF CENTRAL AMERICA
13	23	11	55.9	15.014	N	60.583	W	67		4.3		0.8	40	LEEWARD ISLANDS. Felt (III) on Martinique.
14	01	18	47.9*	2.373	N	75.311	W	63		4.7		1.3	34	COLOMBIA. Felt in the Neiva-Florencia area.
14	03	37	57.5	52.626	N	158.035	E	121	D	5.0		0.8	153	NEAR EAST COAST OF KAMCHATKA. Felt (III) at Petropavlovsk-Kamchatskiy.
14	03	57	01.0?	45.36	S	75.46	W	33	N			1.5	6	OFF COAST OF SOUTHERN CHILE
14	06	21	59.9*	1.445	S	78.034	W	165		4.0		0.9	8	ECUADOR
14	07	22	37.8?	3.28	S	177.25	E	33	N	4.3		0.7	14	GILBERT ISLANDS REGION
14	07	54	27.4*	16.142	N	95.399	W	88				1.0	17	OAXACA, MEXICO
14	08	05	39.1?	15.75	N	59.96	W	33	N			1.6	7	LEEWARD ISLANDS
14	09	29	47.8*	6.442	S	152.203	E	38		4.9		0.9	18	NEW BRITAIN REGION
14	09	46	34.5*	3.037	N	78.850	W	33	N	4.2		1.0	11	SOUTH OF PANAMA
14	10	00	50.7*	54.484	N	134.234	W	10	G	4.1		0.8	12	QUEEN CHARLOTTE ISLANDS REGION. Felt (IV) at Ketchikan, Alaska.
14	10	55	30.3?	16.30	N	97.20	W	10	G			1.9	7	OAXACA, MEXICO
14	11	55	59.5*	59.976	N	141.128	W	15	G	3.9		1.1	17	SOUTHEASTERN ALASKA. ML 4.0 (PMR).
14	11	57	03.9	35.367	S	179.696	W	37	D	5.3	4.8	1.2	44	EAST OF NORTH ISLAND, N.Z.
14	12	25	23.5*	1.156	S	100.121	E	52				1.1	8	SOUTHERN SUMATERA
14	12	43	02.4	36.679	N	71.286	E	58		4.6		1.0	38	AFGHANISTAN-USSR BORDER REGION. Felt (IV) at Ishkashim, USSR.
14	13	47	29.9	61.754	N	151.070	W	78				0.4	16	SOUTHERN ALASKA
14	13	49	23.4	9.590	N	127.200	E	19		5.1		1.0	62	PHILIPPINE ISLANDS REGION
14	14	00	35.3*	35.664	N	140.096	E	33	N			0.4	6	NEAR EAST COAST OF HONSHU, JAPAN
14	14	02	55.7	2.908	S	141.921	E	3		5.4	5.4	1.1	121	NEAR N COAST OF PAPUA NEW GUINEA
	CMTS: (HRV) B051482A DATA: GDSN ; L.P. BODY WAVES: 13S, 35C, T= 45; CENTROID LOCATION OT 14: 3: 1.4 0.4; LAT 3.02S 0.05; LON 142.13E 0.05; DEP 10.0 FIX; HALF-DURATION 3.0 MT: Scale 10**24 d-cm; MRR= 1.55 0.09; MTT=-0.26 0.11; MFF=-1.29 0.11; MRT=-3.69 0.29; MRF= 1.10 0.30; MTF= 0.99 0.10 PRINCIPAL AXES: (T) VAL= 4.46; PLG=52; AZM=184; (N) VAL= -0.50; PLG=15; AZM=295; (P) VAL= -3.96; PLG=34; AZM= 35 BEST DOUBLE COUPLE: Mo= 4.2*10**24; NP1: STRIKE=171; DIP=18; SLIP= 147; NP2: STRIKE=292; DIP=80; SLIP= 75															
14	14	18	26.1*	14.290	N	53.511	E	10	G	4.9		0.9	44	ARABIAN SEA
14	14	24	02.1	14.327	N	53.772	E	10	G	5.0	4.6	0.8	51	ARABIAN SEA
14	14	42	57.2	14.549	N	53.684	E	10	G	5.2	5.1	1.1	95	ARABIAN SEA
14	14	45	30.8	2.807	S	142.054	E	33	N	4.5		1.3	24	NEAR N COAST OF PAPUA NEW GUINEA
14	14	46	20.4*	2.802	S	142.004	E	33	N	5.0		1.1	21	NEAR N COAST OF PAPUA NEW GUINEA
14	15	02	10.3	2.904	S	141.975	E	33	N	4.9		1.0	44	NEAR N COAST OF PAPUA NEW GUINEA
14	16	22	54.2	14.010	N	145.128	E	488		4.4		0.9	48	MARIANA ISLANDS
14	16	26	13.7?	62.32	N	153.27	W	33	N			1.2	9	CENTRAL ALASKA. ML 3.3 (PMR).
14	16	26	31.7&	20.000	N	155.864	W	20	G	4.5			14	HAWAII. <HVO-P>. ML 5.0 (HVO). Felt on the northern part of Hawaii and on Maui.
14	17	31	21.5*	2.934	S	141.800	E	22		4.3		0.9	12	NEAR N COAST OF PAPUA NEW GUINEA
14	17	57	35.9	39.197	N	68.402	E	33	N	5.0		0.9	44	TAJIK SSR. Felt (IV) at Ayni and (III) at Pendzhikent, Ura-Tyube and Dushanbe.
14	18	17	13.9*	3.034	S	141.874	E	33		4.1		1.6	12	PAPUA NEW GUINEA
14	18	29	37.0	24.046	S	179.382	E	542		5.1		1.0	56	SOUTH OF FIJI ISLANDS
14	20	05	06.3&	35.800	N	117.750	W	3	G				9	CENTRAL CALIFORNIA. <PAS-P>. ML 3.3 (PAS).
14	20	27	58.4*	27.957	S	66.758	W	183	D	4.7		1.4	29	CATAMARCA PROVINCE, ARGENTINA
14	21	44	27.6*	31.891	N	138.304	E	357		3.7		0.6	14	SOUTH OF HONSHU, JAPAN
14	22	58	23.6*	32.420	S	178.786	W	33	N	5.1		1.0	15	SOUTH OF KERMADEC ISLANDS
14	23	57	27.2*	6.327	S	149.942	E	33	N	4.6		1.4	9	NEW BRITAIN REGION
15	00	23	57.8	2.992	S	141.885	E	33	N	4.8		0.9	30	NEAR N COAST OF PAPUA NEW GUINEA
15	00	41	04.5*	15.118	N	61.232	W	29				0.3	7	LEEWARD ISLANDS
15	03	25	40.8*	19.908	S	168.479	E	26		4.6		1.4	34	VANUATU ISLANDS
15	03	48	04.1	6.841	N	73.122	W	165		4.6		0.5	11	NORTHERN COLOMBIA
15	04	44	52.2	42.068	N	24.335	E	7				0.8	15	BULGARIA
15	05	09	06.3?	39.40	N	41.71	E	33	N	4.3	3.7	1.0	12	TURKEY
15	06	26	31.4*	35.503	S	179.438	W	33	N	4.8		0.9	11	EAST OF NORTH ISLAND, N.Z.
15	06	56	05.4	62.225	N	150.88?	W	90		4.2		0.9	18	CENTRAL ALASKA
15	07	50	50.8?	39.46	N	19.86	E	10	G			0.3	8	GREECE-ALBANIA BORDER REGION
15	08	32	59.7	9.003	N	126.254	E	71		4.6		1.1	23	MINDANAO, PHILIPPINE ISLANDS
15	09	59	37.3*	28.230	S	71.074	W	20		4.1		1.1	11	NEAR COAST OF CENTRAL CHILE
15	10	15	09.7	31.237	N	131.482	E	61		4.4		1.0	26	KYUSHU, JAPAN
15	10	23	50.9*	15.991	S	174.009	W	106	D	4.7		1.0	35	TONGA ISLANDS

15	10	33	18.5*	43.167	N	1.383	W	19			0.9	14	PYRENEES. ML 3.0 (LDG).
15	10	36	13.0	35.483	N	73.514	E	33	N	4.5	1.1	13	NORTHWESTERN KASHMIR
15	11	14	31.2*	16.596	N	100.355	W	33	N	3.4	1.1	9	NEAR COAST OF GUERRERO, MEXICO
15	11	49	14.6?	50.40	N	130.33	W	10	G		0.1	7	VANCOUVER ISLAND REGION
15	15	58	12.9*	24.575	N	122.823	E	10	G		0.?	10	TAIWAN REGION
15	16	41	30.6*	38.565	N	22.467	E	107		2.9	0.4	11	GREECE
15	16	58	29.2	14.924	N	120.096	E	65		5.2	1.0	123	LUZON, PHILIPPINE ISLANDS. Felt (III RF) in western Luzon.
15	17	36	08.9	35.477	N	54.010	?	32		4.5	0.8	45	IRAN. Felt at Damghan.
15	18	45	00.4*	50.803	N	129.610	W	10	G	4.1	1.3	16	VANCOUVER ISLAND REGION
15	18	48	51.6	50.574	N	129.747	W	10	G	5.0 5.7	1.2	84	VANCOUVER ISLAND REGION
	CMTS: (HRV) B051582A DATA: GDSN ; L.P. BODY WAVES: 138, 35C, T= 45;												
	CENTROID LOCATION OT 18:49: 1.3 0.2; LAT 50.76N 0.02; LON 130.97W 0.03; DEP 10.0 FIX; HALF-DURATION 3.0												
	MT: Scale 10**24 d-cm; MRR= 0.01 0.1?; MTT=-5.68 0.16; MFF= 5.67 0.15; MRT= 0. 0. ; MRF= 0. 0. ; MTF= 2.65 0.15												
	PRINCIPAL AXES: (T) VAL= 6.25; PLG= 0; AZM=103; (N) VAL= 0.01; PLG=90; AZM=225; (P) VAL= -6.26; PLG= 0; AZM= 13												
	BEST DOUBLE COUPLE: Mo= 6.3*10**24; NP1: STRIKE=148; DIP=90; SLIP= 180; NP2: STRIKE=238; DIP=90; SLIP= 0												
15	19	28	19.1*	47.009	N	112.976	W	5	G		0.8	15	MONTANA. Felt (IV) at Helmville. ML 3.3.
15	19	51	01.5*	59.989	N	141.289	W	15	G	4.1	1.1	16	SOUTHEASTERN ALASKA. ML 4.2 (PMR).
15	21	11	09.7*	19.087	N	120.981	E	33	N	4.1	1.2	11	PHILIPPINE ISLANDS REGION
15	21	30	22.5*	50.623	N	129.855	W	10	G	4.1	1.3	16	VANCOUVER ISLAND REGION
15	21	53	01.0?	50.27	N	130.41	W	10	G		1.4	7	VANCOUVER ISLAND REGION
15	21	55	18.1*	50.634	N	129.834	W	10	G	4.4	1.5	18	VANCOUVER ISLAND REGION
15	22	02	19.5	43.442	N	17.364	E	10	G	4.0	1.4	51	YUGOSLAVIA. ML 4.5 (TRI), 4.1 (RMP). Felt (VI) in the Mostar area.
15	22	36	19.5*	38.784	N	24.915	E	10	G	3.3	0.4	13	AEGEAN SEA. ML 3.2 (ATH).
15	23	21	46.0?	5.00	S	128.31	E	33	N	4.4	0.7	10	BANDA SEA
15	23	24	27.4*	41.862	N	23.205	E	10	G		0.9	9	GREECE-BULGARIA BORDER REGION
15	23	43	48.9*	26.109	S	71.223	E	10	G	4.7	0.9	17	MID-INDIAN RISE
16	01	12	19.3*	14.697	S	173.286	W	27	D	4.8	0.8	15	SAMOA ISLANDS REGION
16	03	06	52.8*	39.258	N	72.196	E	33	N	4.0	0.4	5	KIRGHIZ SSR
16	03	37	16.7*	15.141	N	61.253	W	14			0.2	7	LEEWARD ISLANDS
16	04	46	16.7	32.408	N	139.072	E	221		4.2	0.6	16	SOUTH OF HONSHU, JAPAN
16	05	04	49.0*	50.248	N	130.281	W	10	G	4.0 3.7	1.4	20	VANCOUVER ISLAND REGION
16	05	12	04.8*	32.957	S	70.194	W	124			0.5	7	CHILE-ARGENTINA BORDER REGION
16	05	50	22.6	21.229	S	176.394	W	214		5.1	1.2	61	FIJI ISLANDS REGION
16	06	46	12.1*	34.856	N	139.503	E	33	N	4.1	0.9	9	NEAR S. COAST OF HONSHU, JAPAN
16	07	50	56.2	39.769	N	20.267	E	10	G	4.3	1.5	37	GREECE-ALBANIA BORDER REGION. ML 4.0 (ATH), 3.8 (SKO). Felt (V) in southern Albania.
16	08	05	40.9	36.187	N	68.549	E	33	N	4.8 4.0	1.0	57	HINDU KUSH REGION
16	11	17	36.2?	27.92	S	113.88	W	10	G	5.1 3.9	0.8	13	EASTER ISLAND REGION
16	15	24	07.0*	3.951	S	104.371	W	10	G	4.8 5.1	1.2	29	NORTHERN EASTER I. CORDILLERA
16	15	44	07.4*	7.151	S	147.690	E	33	N	3.7	0.5	6	EAST PAPUA NEW GUINEA REGION
16	17	42	27.6	62.794	N	150.572	W	111			0.6	18	CENTRAL ALASKA
16	19	17	36.6*	6.971	S	148.072	E	33	N	3.7	1.4	8	NEW BRITAIN REGION
16	19	21	14.2	3.964	S	104.326	W	10	G	5.0 4.9	1.0	47	NORTHERN EASTER I. CORDILLERA
16	19	50	06.3*	19.570	S	167.942	E	46		4.0	0.5	10	VANUATU ISLANDS REGION
17	00	08	47.0*	16.844	S	174.373	W	212		4.0	1.0	24	TONGA ISLANDS
17	01	00	33.8*	50.805	N	14.541	?	10	G		1.3	7	CZECHOSLOVAKIA. ML 3.2 (GRF).
17	01	45	28.2?	43.73	N	127.33	W	10	G	4.3	1.1	9	OFF COAST OF OREGON
17	02	39	26.1*	35.350	S	103.840	W	10	G	5.0 4.7	0.9	32	SOUTHERN PACIFIC OCEAN
17	04	01	09.8*	61.264	N	146.168	W	33	N		0.9	11	SOUTHERN ALASKA. ML 3.2 (PMR).
17	05	13	51.0*	6.666	S	123.120	E	33	N	4.1	0.6	10	BANDA SEA
17	07	12	48.8	3.458	S	177.542	E	25	D	5.5 5.0	0.8	136	GILBERT ISLANDS REGION
17	09	37	14.8*	5.418	S	150.573	E	149		4.2	0.8	8	NEW BRITAIN REGION
17	09	46	51.9*	32.053	S	71.847	W	33	N		0.2	5	NEAR COAST OF CENTRAL CHILE
17	12	54	19.7*	35.553	S	179.208	W	33	N	5.1 4.9	1.2	14	EAST OF NORTH ISLAND, N.Z.
17	13	00	10.7	3.347	S	177.427	E	28	D	5.2 4.4	0.8	45	GILBERT ISLANDS REGION
17	17	30	04.8	48.511	N	10.207	E	33	N		1.1	40	GERMANY. ML 4.3 (FUR). Felt in the Gunzburg area.
17	17	34	30.3*	18.354	N	120.712	E	53		4.1	1.3	18	LUZON, PHILIPPINE ISLANDS. Felt (II RF) at Pasuquin.
17	19	54	52.4	24.124	N	109.049	W	10	G	5.2 4.6	1.0	93	GULF OF CALIFORNIA
17	20	32	12.6*	28.396	N	138.872	E	534		4.6	0.9	44	BONIN ISLANDS REGION
17	20	37	36.5*	40.240	N	27.238	E	10	G		0.5	8	TURKEY
17	21	07	45.0*	22.393	S	173.900	E	33	N	5.0	1.3	14	LOYALTY ISLANDS REGION
17	23	17	49.5	25.456	N	95.045	E	65		4.6	1.1	20	BURMA-INDIA BORDER REGION
18	02	41	52.3*	17.508	S	175.545	W	221		5.0	1.1	16	TONGA ISLANDS
18	06	00	08.56	34.170	N	106.950	W	9	G			2	NEW MEXICO. <GS>. ML 2.8 (GS). Felt at Socorro.
18	06	08	38.46	34.200	N	106.900	W	6	G			1	NEW MEXICO. <GS>. ML 2.8 (GS). Felt at Socorro.
18	09	56	05.8	8.987	S	123.331	E	10e		4.9	1.5	55	FLORES ISLAND REGION
18	13	15	21.7?	34.40	N	7.68	E	10	G	4.2	1.0	5	ALGERIA. Felt at Algiers.
18	15	10	46.1	46.349	N	12.390	E	10	G		1.0	24	NORTHERN ITALY. ML 3.4 (GRF), 3.2 (TRI).
18	16	59	37.2*	38.323	N	23.522	E	10	G	4.1	1.2	14	GREECE
18	17	09	46.4	22.619	S	173.968	E	33	N	4.9	1.3	17	LOYALTY ISLANDS REGION
18	17	20	13.4*	38.264	N	23.391	E	10	G	4.2	1.2	26	GREECE. ML 3.8 (ATH).
18	17	32	17.0	4.707	S	103.267	E	83		5.2	1.1	58	SOUTHERN SUMATERA
18	18	08	43.2*	41.340	N	19.989	E	10	G		1.2	5	ALBANIA
18	22	08	41.6*	1.269	N	126.616	E	33	N		0.6	9	MOLUCCA PASSAGE
18	22	17	03.3?	1.44	N	126.67	E	33	N	4.5	1.1	7	MOLUCCA PASSAGE
18	23	14	12.5?	22.02	S	176.83	W	201		4.9	0.7	10	SOUTH OF FIJI ISLANDS
18	23	23	31.4	36.415	N	70.807	E	217		4.5	0.8	18	HINDU KUSH REGION
18	23	54	39.7	52.825	N	34.820	W	10	G	5.0 4.5	0.8	116	NORTH ATLANTIC OCEAN
19	00	32	59.4?	3.52	S	177.44	E	33	N	4.8	0.6	11	GILBERT ISLANDS REGION
19	00	45	31.8*	52.720	N	34.874	W	10	G	4.3	1.1	24	NORTH ATLANTIC OCEAN
19	01	28	10.1*	1.445	N	126.693	E	33	N	4.7	1.3	7	MOLUCCA PASSAGE
19	02	29	07.8?	55.59	N	165.24	E	33	N	4.4	0.4	8	KOMANDORSKY ISLANDS REGION
19	02	42	02.7*	40.847	N	22.354	E	10	G		0.5	11	GREECE
19	03	24	44.1?	6.62	S	123.35	E	223		5.0	1.3	18	BANDA SEA
19	03	36	20.5&	19.909	N	156.365	W	0	G	4.8 3.7		36	HAWAII. <HVO-P>. ML 4.9 (HVO). Felt (V) in the North Kona area, (IV) at Kamuela and Ahualoa. Felt (III) at Honokaa, Volcano, Hilo, and in the South Kona area. Also felt (II) on Maui.
19	06	39	04.0	7.263	S	128.801	E	158		5.0	1.1	49	BANDA SEA
19	07	08	53.4*	23.045	N	121.431	E	33	N		1.1	7	TAIWAN
19	13	15	32.6	3.486	S	177.483	E	27	D	4.9	0.6	25	GILBERT ISLANDS REGION

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19   13 32 54.9* 39.867 N   42.242 E   33 N  4.6 3.2    1.0   45  TURKEY. Fifty homes damaged in the Erzurum area.
19   16 34 00.0  40.993 N   78.474 E   68     4.8        1.0   48  SOUTHERN SINKIANG PROV., CHINA
19   18 17 24.8  20.838 S  169.933 E  149     5.2        1.1  121  VANUATU ISLANDS
19   21 12 47.5  13.614 N  120.838 E  158     4.8        1.0   63  MINDORO, PHILIPPINE ISLANDS. Felt (III RF) at Puerto
                                                                   Galera.
19   22 02 01.1*  5.449 S  150.221 E  127     4.5        1.4   10  NEW BRITAIN REGION
19   23 42 44.3? 45.56  N   26.75  E   33 N               1.9    6  ROMANIA
20   02 17 33.3* 39.937 N   24.303 E   10 G               0.5    8  AEGEAN SEA
20   02 42 48.7  40.407 N   29.057 E   10 G  4.0 3.5     1.3   29  TURKEY. ML 4.7 (ATH).
20   03 28 03.1  35.124 N   33.787 E   59     4.6        1.0   80  CYPRUS. Felt in the Nicosia area.
20   04 56 17.8  62.226 N  151.146 W   94                0.7    9  CENTRAL ALASKA
20   05 00 14.6* 29.643 S   70.697 W   58                0.7    5  CENTRAL CHILE
20   05 13 01.7*  4.559 N  125.621 E  170     4.4        1.2   23  TALAUD ISLANDS
20   05 39 36.7* 16.685 N   61.960 W   33 N               0.8    5  LEEWARD ISLANDS
20   08 16 56.6* 40.118 N   23.267 E   10 G               0.2    5  GREECE
20   12 10 50.2   1.568 S   78.013 W  169 D  5.1         0.8  153  ECUADOR
20   16 15 40.2*  5.165 S  159.747 E  238     4.7        0.7   12  NEW BRITAIN REGION
20   17 03 43.8?  5.69  S  103.32  E   33 N  4.2         1.5   10  SOUTHERN SUMATERA
20   18 54 31.6* 15.150 N   60.464 W   33 N               0.4    7  LEEWARD ISLANDS
20   21 29 15.0  20.283 S  168.22C E   38 D  5.9 5.8     1.0  217  LOYALTY ISLANDS. Ms 5.8 (BRK), 5.7 (PAS).
   CMTS:  (HRV) BO52082A   DATA:  GDSN          ;  L.P. BODY WAVES:  14S, 41C, T= 45;
   CENTROID LOCATION   OT 21:29:21.8 0.2;  LAT 20.20S 0.04;  LON 167.60E 0.03;  DEP  20.7 1.7;        HALF-DURATION  5.0
   MT: Scale 10**25 d-cm; MRR=-1.03 0.02; MTT=-0.24 0.04; MFF= 1.26 0.04; MRT= 0.22 0.06; MRF=-0.45 0.08; MTF=-0.42 0.03
   PRINCIPAL AXES:  (T) VAL=  1.47; PLG=11; AZM= 75;  (N) VAL= -0.33; PLG= 7; AZM=344;  (P) VAL= -1.14;  PLG=77; AZM=223
   BEST DOUBLE COUPLE:       Mo= 1.3*10**25;    NP1:  STRIKE=173; DIP=34; SLIP= -78;   NP2:  STRIKE=339; DIP=56; SLIP= -98
20   21 40 30.9  17.681 S  175.000 W  231 D  5.2         1.0   93  TONGA ISLANDS
20   22 55 56.8  27.776 S  172.158 E   33 N  5.4 5.6     1.2   50  NORFOLK ISLAND REGION
21   01 14 35.7? 44.78  N  110.85  W    5 G               0.6   11  YELLOWSTONE NATIONAL PARK, WYO. ML 3.3.
21   02 59 37.3* 43.901 N   20.317 E   10 G               1.5    6  YUGOSLAVIA. Felt (VI) at Kosjeric. Also felt in the
                                                                   Titovo Uzice and Bajina Basta areas.
21   08 15 49.3  37.098 N  141.388 E   68     4.6        0.7   35  NEAR EAST COAST OF HONSHU, JAPAN
21   12 05 22.3*  3.965 S  143.683 E   33 N               0.1    5  NEAR N COAST OF PAPUA NEW GUINEA
21   14 29 14.9? 11.86  S  166.87  E   33 N  4.5         1.2   19  SANTA CRUZ ISLANDS
21   15 19 48.8  51.938 N   93.706 E   33 N  3.8         1.3   10  CENTRAL USSR
21   20 16 07.3   6.709 S  155.590 E   89     5.4        0.9   76  SOLOMON ISLANDS
21   22 30 27.4* 23.252 N  122.590 E   33 N               0.2    6  TAIWAN REGION
21   23 24 53.7  12.898 N  125.818 E   38 D  5.0         1.0   58  SAMAR, PHILIPPINE ISLANDS
21   23 51 43.8* 38.791 N   25.130 E   10 G  3.4         0.8    9  AEGEAN SEA. ML 3.4 (ATH).
22   00 14 15.3* 51.494 N    7.160 E   10 G               1.5   13  GERMANY. ML 3.0 (BNS).
22   00 40 36.3  32.092 S   68.350 W  132     4.5        0.8   19  MENDOZA PROVINCE, ARGENTINA
22   01 35 36.9  42.078 N  142.620 E   50 D  5.2 5.1     1.0  151  HOKKAIDO, JAPAN  REGION. Felt (IV JMA) at Urakawa, (II
                                                                   JMA) at Obihiro, Kushiro, and Hiroo, (I JMA) at
                                                                   Tomakomai and Mori.
22   02 55 40.4* 55.145 S  158.424 E   10 G  5.1         0.8   18  MACQUARIE ISLANDS REGION
22   03 32 03.8& 37.038 N  121.503 W    9 G                    21  CENTRAL CALIFORNIA. (BRK). ML 3.5 (BRK). Felt at
                                                                   Gilroy, Hollister and Morgan Hill.
22   04 03 01.8  42.849 N    1.795 W   21     4.4 3.3    1.2   9&  PYRENEES. Felt (II) at Logrono. Also felt in the
                                                                   Navarra region of Spain.
22   05 11 45.6*  9.867 S  111.502 E   33 N  3.8         1.5    5  SOUTH OF JAVA
22   05 59 21.4  42.864 N    1.879 W   10 G               1.1   25  PYRENEES. ML 3.8 (LDG).
22   06 00 00.8  51.115 N    5.801 E   10 G               0.7   32  NETHERLANDS. ML 3.8 (BNS), 3.8 (GRF). Felt (V) in
                                                                   central Limburg province.
22   06 00 11.3* 42.203 N  142.642 E   33 N  4.7         1.0   20  HOKKAIDO, JAPAN  REGION
22   06 50 48.2*  7.623 S  147.801 E   56                1.3   10  EAST PAPUA NEW GUINEA REGION
22   07 43 49.6? 26.01  S  175.64  W   33 N  5.3         1.1    7  SOUTH OF TONGA ISLANDS
22   07 57 01.9  33.990 N  141.347 E   54     4.7 4.1    1.0   29  OFF EAST COAST OF HONSHU, JAPAN
22   08 52 58.8   7.564 N   94.023 E   33 N  5.5 5.3     1.1  193  NICOBAR ISLANDS REGION
   CMTS:  (HRV) BO52282A   DATA:  GDSN          ;  L.P. BODY WAVES:  11S, 26C, T= 45;
   CENTROID LOCATION   OT  8:53: 4.8 0.4;  LAT  7.61N 0.06;  LON  94.39E 0.07;  DEP  12.2 3.5;        HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR=-1.45 0.09; MTT= 0.08 0.13; MFF= 1.37 0.10; MRT= 0.79 0.37; MRF= 1.39 0.62; MTF= 0.74 0.08
   PRINCIPAL AXES:  (T) VAL=  2.37; PLG=23; AZM=296;  (N) VAL= -0.24; PLG= 3; AZM= 27;  (P) VAL= -2.13;  PLG=67; AZM=125
   BEST DOUBLE COUPLE:       Mo= 2.3*10**24;    NP1:  STRIKE= 19; DIP=23; SLIP= -98;   NP2:  STRIKE=208; DIP=68; SLIP= -86
22   09 02 27.1  24.096 N   94.082 E   77 D  4.6         1.0   30  BURMA-INDIA BORDER REGION
22   09 19 03.3  33.920 N  141.563 E   33 N  4.6         0.8   28  OFF EAST COAST OF HONSHU, JAPAN
22   11 39 35.4*  0.418 S   19.541 W   10 G  4.6 4.3     0.7   26  CENTRAL MID-ATLANTIC RIDGE
22   12 19 56.9  11.977 N   87.992 W   63     4.9        1.2   54  NEAR COAST OF NICARAGUA
22   13 31 08.5  35.222 N  141.222 E   25 D  5.0 4.4     1.0   51  NEAR EAST COAST OF HONSHU, JAPAN
22   18 16 23.4* 61.337 N  147.292 W   32                0.9   16  SOUTHERN ALASKA. ML 2.9 (PMR).
22   00 38 45.7* 42.860 N  142.215 E   33 N  4.8         0.4    9  HOKKAIDO, JAPAN  REGION
23   02 43 51.3  27.506 S   13.340 W   10 G  5.1         0.8   56  SOUTH ATLANTIC RIDGE
23   06 46 34.5  58.476 S   26.234 W  120     5.2        0.9   37  SOUTH SANDWICH ISLANDS REGION
23   07 25 03.1* 63.113 N  150.875 W  147                0.3    9  CENTRAL ALASKA
23   10 51 55.4* 36.862 N  140.133 E  109     4.4        0.7   15  NEAR EAST COAST OF HONSHU, JAPAN
23   10 53 28.6*  6.942 S  106.862 E   58     5.0        0.8   20  JAVA
23   11 26 17.6* 12.358 N  143.978 E   33 N  4.7         1.0   13  SOUTH OF MARIANA ISLANDS
23   12 53 23.4* 60.447 N  152.321 W  104                0.4   10  SOUTHERN ALASKA
23   13 17 11.1* 37.053 N    3.852 E   10 G               1.1   12  WESTERN MEDITERRANEAN SEA. Felt in the Tizi Ouzou area
                                                                   and at Algiers, Algeria.
23   13 41 47.5  17.852 N  120.084 E   32     5.2 4.5    0.9  100  LUZON, PHILIPPINE ISLANDS. Felt (III RF) at Pasuquin.
23   13 57 10.7  12.474 N  143.813 E   33 N  4.6         0.9   20  SOUTH OF MARIANA ISLANDS
23   15 22 59.1* 12.365 N  143.807 E   33 N  4.7         1.1   18  SOUTH OF MARIANA ISLANDS
23   16 20 40.0? 37.9&  N   21.99  E  100     3.5        1.1    5  SOUTHERN GREECE
23   16 23 06.6? 40.37  N   28.96  E   10 G  3.5         1.2   10  TURKEY. ML 4.5 (ATH). Felt at Bursa.
23   18 22 40.8* 50.831 N   15.158 E   10 G               0.8    7  CZECHOSLOVAKIA. ML 3.3 (GRF).
23   18 51 56.0   8.244 N   58.505 E   10 G  4.7 3.7     1.1   43  CARLSBERG RIDGE
23   18 52 56.2   8.507 N   58.357 E   10 G  5.0 4.7     0.7   33  CARLSBERG RIDGE
23   20 45 42.3  42.994 N    1.843 W   10 G               0.7   19  PYRENEES
23   21 32 35.1   3.385 S  177.395 E   32 D  5.9 5.7     1.2  176  GILBERT ISLANDS REGION. Ms 6.1 (BRK), 5.5 (PAS).
   CMTS:  (HRV) BO52382A   DATA:  GDSN          ;  L.P. BODY WAVES:  16S, 36C, T= 45;
   CENTROID LOCATION   OT 21:32:33.7 0.3;  LAT  3.48S 0.03;  LON 177.46E 0.04;  DEP  10.6 FIX;        HALF-DURATION  3.0
   MT: Scale 10**24 d-cm; MRR= 4.83 0.13; MTT=-4.94 0.16; MFF= 0.11 0.17; MRT=-0.59 0.64; MRF= 0.58 0.46; MTF= 1.28 0.16
   PRINCIPAL AXES:  (T) VAL=  4.91; PLG=83; AZM=247;  (N) VAL=  0.38; PLG= 5; AZM=104;  (P) VAL= -5.29;  PLG= 4; AZM= 14
   BEST DOUBLE COUPLE:       Mo= 5.1*10**24;    NP1:  STRIKE= 98; DIP=41; SLIP=  82;   NP2:  STRIKE=289; DIP=49; SLIP=  97
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23	22 17 46.3*	40.390 N	30.965 E		10 G	4.2		0.9	14	TURKEY
23	22 29 35.2	18.468 N	146.939 E		66		4.6	0.7	16	MARIANA ISLANDS
23	23 12 37.1*	5.447 N	61.263 E		10 G	4.9		1.0	26	CARLSBERG RIDGE
23	23 47 24.2*	17.560 S	70.366 W	123				1.1	8	NEAR COAST OF PERU
24	01 25 10.4?	3.40 S	177.30 E		28 D	4.7		1.0	11	GILBERT ISLANDS REGION
24	01 36 31.6*	31.443 S	68.438 W	116				0.5	7	SAN JUAN PROVINCE, ARGENTINA
24	01 46 23.0*	6.887 S	12.460 W		10 G		5.2	0.6	7	ASCENSION ISLAND REGION
24	01 57 58.4	42.867 N	1.805 W		10 G			1.0	26	PYRENEES
24	02 14 18.5	5.704 N	61.104 E		10 G	5.0	4.2	0.8	52	CARLSBERG RIDGE
24	02 27 56.9	12.507 N	143.786 E		33 N	4.8		1.3	18	SOUTH OF MARIANA ISLANDS
24	06 32 51.7&	34.170 N	106.948 W		6 G				1	NEW MEXICO. <GS>. ML 2.9 (GS). Felt at Socorro.
	CMTS: (MRV) B052482A		DATA: GDSN					0.9	285	KURIL ISLANDS
	CENTROID LOCATION OT 7:25:37.0 0.3; LAT 48.61N 0.03; LON 155.66E 0.06; DEP 27.4 2.2; HALF-DURATION 3.0						; L.P. BODY WAVES: 15S, 38C, T= 45;			
	MT: Scale 10**24 d-cm; MRR= 3.79 0.10; MTT=-0.58 0.11; MFF=-3.21 0.14; MRT= 2.43 0.31; MRF= 1.90 0.32; MTF=-2.56 0.13									
	PRINCIPAL AXES: (T) VAL= 4.95; PLG=68; AZM=344; (N) VAL= 0.73; PLG=13; AZM=218; (P) VAL= -5.67; PLG=17; AZM=124									
	BEST DOUBLE COUPLE: Mo= 5.3*10**24; NP1: STRIKE=195; DIP=30; SLIP= 63; NP2: STRIKE= 45; DIP=64; SLIP= 105									
24	08 55 54.9*	11.613 N	60.966 W		33 N	4.4		0.8	12	WINDWARD ISLANDS
24	09 53 53.3	12.444 N	143.816 E		33 N	4.7		0.5	8	SOUTH OF MARIANA ISLANDS
24	11 30 41.8?	17.53 N	94.73 W	174		4.4		1.1	11	CHIAPAS, MEXICO
24	12 13 27.0&	38.706 N	112.041 W		9 G	4.7			48	UTAH. <SLC>. ML 4.0 (SLC). Slight damage (VI) at Annabella and Glenwood. Felt (V) at Elsinore, Koosharem and Monroe, (IV) at Aurora and Richfield. Also felt at Manti, Sigurd, Greenwich and Cedar City.
24	12 24 52.3*	30.716 S	179.642 W	368		4.9		1.4	61	KERMADEC ISLANDS REGION
24	12 29 15.2	3.215 S	177.633 E		27 D	5.0		0.9	25	GILBERT ISLANDS REGION
24	13 10 33.1*	42.301 N	142.604 E		33 N	4.5	4.1	1.1	12	HOKKAIDO, JAPAN REGION
24	16 41 51.0?	27.45 S	68.75 W	135				1.4	5	CHILE-ARGENTINA BORDER REGION
24	18 22 08.0	3.287 S	148.769 E		33 N	4.9		0.9	31	BISMARCK SEA
24	19 37 29.8	3.500 N	132.552 E		33 N	5.0		1.1	36	WEST CAROLINE ISLANDS
24	20 24 35.5*	11.646 S	74.192 W		33 N			0.5	5	PERU
24	21 09 36.5	42.813 N	1.641 W		10 G			0.9	11	PYRENEES
24	22 49 13.3	3.378 S	148.687 E		33 N	4.6		1.3	24	BISMARCK SEA
24	23 15 03.1*	48.519 N	155.326 E		33 N	4.6	4.5	0.6	22	KURIL ISLANDS
24	23 29 20.6	6.683 N	73.060 W	179	D	4.7		1.1	53	NORTHERN COLOMBIA. Felt at Bogota and Bucaramanga.
24	23 28 23.8*	31.285 S	67.950 W		33 N			1.2	5	SAN JUAN PROVINCE, ARGENTINA
24	23 38 44.1*	3.394 S	148.712 E		33 N	4.6		0.8	12	BISMARCK SEA
25	00 27 08.2*	28.604 N	105.190 E		33 N			1.6	6	SICHUAN PROVINCE, CHINA
25	02 50 43.7?	12.44 N	88.28 W	178		4.4		1.0	14	OFF COAST OF CENTRAL AMERICA
25	05 19 01.8*	5.475 S	77.439 W		17 D	4.9		1.1	37	NORTHERN PERU
25	06 17 49.8&	47.596 N	5.184 E		10 G			0.3	7	FRANCE. ML 2.6 (LDG).
25	06 59 55.2	8.447 N	70.570 W		65	4.4		0.8	11	VENEZUELA
25	08 06 08.3	41.393 N	44.001 E		33 N	4.7	3.9	1.0	44	WESTERN CAUCASUS. Felt (IV) at Leninakan and Stepanavan.
25	08 27 03.4&	16.184 N	97.258 W		33 N			1.3	8	OAXACA, MEXICO
25	12 18 18.0*	47.290 N	6.095 E		10 G			1.0	8	FRANCE. ML 2.7 (LDG).
25	12 45 25.6&	31.250 N	115.700 W		16 G				6	BAJA CALIFORNIA. <PAS-P>. ML 4.5 (PAS).
25	13 44 30.3&	33.533 N	118.200 W		14 G	4.7			44	SOUTHERN CALIFORNIA. <PAS-P>. ML 4.1 (PAS), 4.2 (BRK). Felt (IV) at Compton, San Pedro, Seal Beach, Surfside and Torrance. Felt throughout much of the Los Angeles-Orange County area.
25	14 35 43.7&	33.550 N	118.200 W		6 G				8	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
25	14 45 32.4*	36.968 N	28.001 E		33 N	4.3		1.0	18	DODECANESE ISLANDS. ML 4.0 (ATH).
25	18 40 25.5	11.889 S	166.725 E	219		5.4		0.9	163	SANTA CRUZ ISLANDS
25	19 24 08.7?	18.00 S	71.29 W	83				0.5	6	OFF COAST OF NORTHERN CHILE
25	20 18 28.7*	9.696 N	126.433 E		33 N	4.7		1.2	22	MINDANAO, PHILIPPINE ISLANDS
25	20 37 58.5*	23.462 N	120.573 E	26		4.3		1.5	19	TAIWAN
25	21 32 28.6	44.713 N	10.457 E		10 G			0.9	39	NORTHERN ITALY. ML 4.3 (GRF), 3.4 (TRI).
25	21 39 26.6*	6.200 S	149.059 E	78		4.6		1.1	7	NEW BRITAIN REGION
25	22 01 27.5	1.366 S	145.016 E		33 N	5.2	4.3	1.2	44	ADMIRALTY ISLANDS REGION
25	22 24 52.5?	5.56 S	147.23 E	206				1.0	7	EAST PAPUA NEW GUINEA REGION
25	23 06 30.5	35.973 N	69.940 E	96		4.7		0.9	24	HINDU KUSH REGION
26	00 42 52.9*	31.129 S	68.879 W	122				1.4	7	SAN JUAN PROVINCE, ARGENTINA
26	01 10 53.9?	1.00 N	98.07 E		33 N			1.8	5	NORTHERN SUMATERA
26	02 37 58.7*	61.395 N	150.857 W	81				0.7	11	SOUTHERN ALASKA
26	03 13 12.6	32.977 N	142.288 E	28		5.3	4.5	0.9	129	SOUTH OF HONSHU, JAPAN
26	03 59 17.3&	45.622 N	3.551 E		10 G			1.1	9	FRANCE. ML 2.5 (LDG).
26	04 05 15.1&	33.550 N	118.200 W		6 G				9	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
26	04 12 42.2*	11.171 S	115.519 E		33 N	4.6		1.3	16	SOUTH OF BALI ISLAND
26	06 36 57.2	8.029 S	156.370 E	25		4.8		1.1	32	SOLOMON ISLANDS
26	07 59 10.6	7.095 S	123.785 E	595		5.1		0.9	51	BANDA SEA
26	08 08 54.7	13.633 N	144.498 E	142	D	5.3		0.9	105	MARIANA ISLANDS. Felt (IV) on Guam.
26	09 36 59.1	3.350 S	152.147 E	384				0.8	9	NEW IRELAND REGION
26	11 23 53.9*	2.662 N	79.726 W		29 D	4.7		1.1	28	SOUTH OF PANAMA
26	13 19 23.3*	28.622 S	68.216 W	179				1.1	7	LA RIOJA PROVINCE, ARGENTINA
26	15 00 42.9*	30.569 N	141.767 E		33 N	4.7		0.9	12	SOUTH OF HONSHU, JAPAN
26	16 19 15.5&	18.050 N	100.716 W	25				0.8	8	GUERRERO, MEXICO
26	16 19 47.6*	1.538 S	98.601 E		33 N	4.0		0.9	10	SOUTHERN SUMATERA
26	16 53 02.5*	36.179 N	106.322 E		33 N	3.2		1.5	7	NORTHERN CHINA
26	19 55 05.2	41.470 N	141.958 E		52 D	4.9		0.9	83	HOKKAIDO, JAPAN REGION
26	20 04 04.8	0.322 S	19.332 W		10 G	4.7	5.0	1.0	41	CENTRAL MID-ATLANTIC RIDGE
26	21 54 40.8	47.354 N	9.505 E	6				0.9	16	GERMANY. ML 2.7 (GRF), 2.7 (KBA).
26	22 32 30.7*	22.789 N	121.395 E		10 G			0.5	7	TAIWAN REGION
26	23 05 51.5	17.193 N	120.065 E	56		4.6		1.2	48	LUZON, PHILIPPINE ISLANDS
27	01 39 19.5*	13.379 S	111.615 W		10 G	5.3	4.8	1.0	29	NORTHERN EASTER I. CORDILLERA
27	05 19 04.5?	5.70 S	146.55 E		33 N	3.9		1.2	6	EAST PAPUA NEW GUINEA REGION
27	09 09 48.3	37.388 N	142.290 E		33 N	4.9	4.2	1.1	47	OFF EAST COAST OF HONSHU, JAPAN
27	11 26 06.5	8.761 N	70.934 W	13		4.8		1.0	27	VENEZUELA. Felt at Merida.
27	11 34 29.2*	37.426 N	142.365 E		33 N	4.7		1.1	19	OFF EAST COAST OF HONSHU, JAPAN
27	15 27 12.7*	2.452 S	138.132 E		33 N	4.8		1.0	22	WEST IRIAN
27	17 09 24.3*	34.768 N	22.641 E		33 N	4.4	3.3	1.2	25	MEDITERRANEAN SEA. ML 4.1 (ATH).
27	17 35 46.1*	24.223 N	122.754 E		33 N	3.8		0.4	9	TAIWAN REGION
27	21 04 04.2	0.938 S	127.107 E	66		5.0		1.0	42	HALMAHERA

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27   21 48 06.6  20.795 S  178.791 W  604      5.2        0.9  108  FIJI ISLANDS REGION
28   00 58 49.1  32.315 N   69.918 E   33 N    4.6        1.0   42  PAKISTAN
28   06 02 30.5* 9.356 N  122.574 E   33 N               1.6    6  NEGROS, PHILIPPINE ISLANDS
28   06 35 44.5  20.801 S  178.776 W  617      5.3        1.0  171  FIJI ISLANDS REGION
   CMTS:  (HRV) B052882A   DATA:  GDSN              ; L.P. BODY WAVES:  11S, 30C, T= 45;
   CENTROID LOCATION    OT  6:35:53.6 0.6;  LAT 20.10S 0.08;  LON 179.30W 0.05;  DEP 521.7 4.6;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR=-2.04 0.13; MTT= 1.25 0.20; MFF= 0.79 0.16; MRT=-0.82 0.15; MRF=-0.02 0.16; MTF= 1.02 0.14
   PRINCIPAL AXES:  (T) VAL=  2.17; PLG= 9; AZM=143;  (N) VAL=  0.08; PLG=12; AZM=235;  (P) VAL= -2.25;  PLG=75; AZM= 17
   BEST DOUBLE COUPLE:        Mo= 2.2*10**24;    NP1:  STRIKE=219; DIP=37; SLIP=-110;   NP2:  STRIKE= 64; DIP=55; SLIP= -75
28   06 51 48.8  39.193 N   25.476 E   10 G               0.8    9  AEGEAN SEA. ML 3.6 (ATH).
28   08 23 39.7% 16.189 N   61.350 W   33 N               0.9    6  LEEWARD ISLANDS
28   12 18 34.0  22.928 S   66.618 W  192      4.8        1.1   33  JUJUY PROVINCE, ARGENTINA
28   13 02 59.9% 31.683 N  115.833 W    6 G                      5  BAJA CALIFORNIA. <PAS-P>. ML 4.4 (PAS).
28   19 42 44.1   5.096 S  143.341 E   43      5.1        1.3   36  PAPUA NEW GUINEA
28   20 31 09.3* 26.631 S   26.707 E    5 G               1.2   10  REPUBLIC OF SOUTH AFRICA
28   21 08 19.2  46.147 N   16.662 E   10 G               1.0   22  YUGOSLAVIA. ML 4.0 (GRF), 3.1 (TRI). Felt in the
                                                                    Varazdin-Cakovec-Ludbreg area.
28   23 51 17.3  26.249 S   28.107 E   20                 1.1   10  REPUBLIC OF SOUTH AFRICA
29   02 22 08.8  17.143 N   95.091 W  129      4.9        1.0   38  OAXACA, MEXICO
29   03 26 58.7  22.347 S   68.373 W  116 D    5.2        1.1  110  NORTHERN CHILE. Felt (IV) in the Calama area.
29   11 27 22.8  29.658 N   95.455 E   33 N    4.9        0.8   87  INDIA-CHINA BORDER REGION
29   12 13 45.0  42.499 N   24.254 E   10 G               0.7    7  BULGARIA
29   12 21 08.3  42.812 N  143.164 E   75      5.8        0.8  221  HOKKAIDO, JAPAN  REGION. Felt (III JMA) in Southern
                                                                    Hokkaido and (II) on Shikotan, Kuril Islands.
   CMTS:  (HRV) B052982A   DATA:  GDSN              ; L.P. BODY WAVES:  10S, 26C, T= 45;
   CENTROID LOCATION    OT 12:21:16.3 0.4;  LAT 42.46N 0.03;  LON 143.20E 0.07;  DEP 118.1 2.8;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 0.44 0.09; MTT=-0.29 0.15; MFF=-0.15 0.20; MRT= 2.60 0.10; MRF= 0.70 0.10; MTF=-0.07 0.16
   PRINCIPAL AXES:  (T) VAL=  2.78; PLG=49; AZM=345;  (N) VAL= -0.12; PLG= 1; AZM=255;  (P) VAL= -2.66;  PLG=41; AZM=164
   BEST DOUBLE COUPLE:        Mo= 2.7*10**24;    NP1:  STRIKE=246; DIP= 4; SLIP= 81;   NP2:  STRIKE= 75; DIP=86; SLIP= 91
29   12 24 14.3   5.253 S  151.481 E   99      4.9        0.8   24  NEW BRITAIN REGION
29   13 02 25.2& 38.785 N  122.822 W    5 G    4.3                30  NORTHERN CALIFORNIA. <BRK>. ML 3.9 (BRK). Felt (V) at
                                                                    Cobb and Finley, (IV) at Geyserville and Kelseyville.
                                                                    Felt in Lake, Napa and Sonoma counties.
29   13 07 25.9& 38.763 N  122.610 W    5 G                      10  NORTHERN CALIFORNIA. <BRK>. ML 3.3 (BRK). Felt at Cobb.
29   14 21 57.5  39.413 N   43.670 E   10 G    4.8 4.3    1.1   87  TURKEY
29   16 37 22.9  45.786 N   26.568 E  126                 0.6    7  ROMANIA
29   17 22 24.4  24.988 S   70.246 W   47      5.1        1.2   69  NEAR COAST OF NORTHERN CHILE. Felt (III) in the
                                                                    Antofagasta area.
29   18 01 27.9? 39.56  N   15.51  E   10 G               0.6   10  SOUTHERN ITALY
29   22 29 35.1   7.140 S  129.301 E  167      4.6        1.2    9  BANDA SEA
29   22 35 06.6% 23.355 N  121.685 E   33 N               0.5    6  TAIWAN
30   01 25 11.7   5.207 S  152.494 E   66      5.7        1.0   10  PYRENEES
30   03 47 41.6% 30.732 S   68.333 W   76                 0.9  209  NEW BRITAIN REGION
30   05 53 45.6? 59.27  N  152.42  W   33 N               0.3    5  SAN JUAN PROVINCE, ARGENTINA
30   06 13 47.7? 52.02  N  169.86  W   33 N    4.5        0.5    8  SOUTHERN ALASKA. ML 3.2 (PMR).
30   06 41 32.5* 5.487 S  102.782 E   33 N    4.8 5.1    1.4   15  FOX ISLANDS, ALEUTIAN ISLANDS. ML 3.8 (PMR).
30   08 15 25.9  32.619 N   39.956 W   10 G    4.4        1.3   30  SOUTHERN SUMATERA
30   09 11 54.7  38.874 N   25.046 E   10 G    4.0        0.3   14  NORTH ATLANTIC RIDGE
30   11 06 43.4& 42.692 N  111.243 W    7 G               0.8   21  AEGEAN SEA. ML 3.9 (ATH).
30   11 55 32.3& 42.652 N  111.226 W    7 G                     27  EASTERN IDAHO. <SLC>. ML 4.0 (SLC), 3.9.
30   14 57 05.9* 54.249 N  160.100 E  111      4.7               22  EASTERN IDAHO. <SLC>. ML 3.6 (SLC), 3.1.
30   18 39 13.0   6.280 S  152.801 E   33 N    5.1        0.5   14  NEAR EAST COAST OF KAMCHATKA
30   19 31 24.6*  5.401 S  145.812 E   43      4.5        1.0   50  NEW BRITAIN REGION
30   21 40 07.6  31.714 S   68.848 W  115                 1.3   11  EAST PAPUA NEW GUINEA REGION
30   22 04 30.8* 34.725 S   70.677 W  118                 0.7    7  SAN JUAN PROVINCE, ARGENTINA
31   04 34 09.1* 60.430 N  151.190 W    9                 0.2    5  CHILE-ARGENTINA BORDER REGION
31   05 10 40.9& 46.350 N  122.233 W   11 G               0.8   11  KENAI PENINSULA, ALASKA. ML 2.9 (PMR).
                                                                     3  WASHINGTON. <SEA>. CL 2.7 (SEA). Felt at Randle and
                                                                        Glenoma.
31   06 00 47.7* 31.508 S   67.790 W   61      4.2        1.4   13  SAN JUAN PROVINCE, ARGENTINA
31   09 15 33.2  23.151 S   66.554 W  224      4.9        1.2   39  JUJUY PROVINCE, ARGENTINA
31   09 37 08.5& 35.100 N  106.800 W    6 G                     1  NEW MEXICO. <GS>. ML 2.0 (GS). Felt in the western part
                                                                    of Albuquerque.
31   10 21 15.0  55.138 N  165.401 E   33 N    6.0 6.4    1.1  293  KOMANDORSKY ISLANDS REGION. Ms 6.2 (BRK), 6.1 (PAS).
                                                                    Felt (V) at Nikolskoye.
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=304;  DIP=73; SLIP= 207.   NP2:  STRIKE=206;  DIP=64;  SLIP= 341
        PRINCIPAL AXES:   (T)  PLG= 6;  AZM= 73.   (P)  PLG=31;  AZM=167
                                                                    Moderately well controlled strike slip fault type
                                                                    mechanism. NP to be designated as the fault plane not
                                                                    determined.
   CMTS:  (HRV) C053182A   DATA:  GDSN              ; L.P. BODY WAVES:  19S, 52C, T= 45;   MANTLE WAVES:   9S, 23C, T=135
   CENTROID LOCATION    OT 10:21:23.2 0.2;  LAT 55.32N 0.02;  LON 164.65E 0.04;  DEP  18.9 1.8;          HALF-DURATION  4.0
   MT: Scale 10**25 d-cm; MRR=-1.57 0.10; MTT=-4.59 0.09; MFF= 6.15 0.11; MRT= 2.63 0.40; MRF= 3.18 0.47; MTF=-1.88 0.09
   PRINCIPAL AXES:  (T) VAL=  7.36; PLG=18; AZM=265;  (N) VAL= -0.43; PLG=51; AZM= 19;  (P) VAL= -6.93;  PLG=33; AZM=163
   BEST DOUBLE COUPLE:        Mo= 7.1*10**25;    NP1:  STRIKE=308; DIP=53; SLIP=-168;   NP2:  STRIKE=211; DIP=81; SLIP= -38
31   11 04 20.4* 55.287 N  165.171 E   33 N    4.3        0.9    7  KOMANDORSKY ISLANDS REGION
31   11 19 04.7? 58.20  N  155.40  W   33 N               0.5    5  ALASKA PENINSULA. ML 4.0 (PMR).
31   11 21 29.1* 55.260 N  165.111 E   33 N    4.5        0.9   11  KOMANDORSKY ISLANDS REGION
31   12 01 29.1* 15.638 N   94.683 W   67      3.7        1.1   13  NEAR COAST OF OAXACA, MEXICO
31   14 10 16.4  44.115 N   11.915 E   10 G               0.6    7  NORTHERN ITALY. ML 3.1 (FIR), 2.5 (TRI).
31   15 18 55.7   7.776 N  135.777 E   33 N    6.0 6.4    1.3  172  WEST CAROLINE ISLANDS. Ms 6.2 (PAS), 6.0 (BRK).
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=307;  DIP=66; SLIP= 170.   NP2:  STRIKE= 41;  DIP=81;  SLIP=  24
        PRINCIPAL AXES:   (T)  PLG=24;  AZM=266.   (P)  PLG=10;  AZM=172
                                                                    Moderately well controlled strike slip fault type
                                                                    mechanism. NP to be designated as the fault plane not
                                                                    determined.
   CMTS:  (HRV) B053182B   DATA:  GDSN              ; L.P. BODY WAVES:  14S, 42C, T= 45;
   CENTROID LOCATION    OT 15:18:59.6 0.2;  LAT  7.74N 0.03;  LON 135.87E 0.03;  DEP  23.1 2.9;          HALF-DURATION  5.5
   MT: Scale 10**25 d-cm; MRR= 0.01 0.12; MTT=-5.63 0.14; MFF= 5.62 0.18; MRT= 0.66 0.29; MRF= 1.21 0.28; MTF=-0.92 0.12
   PRINCIPAL AXES:  (T) VAL=  5.92; PLG=11; AZM=266;  (N) VAL= -0.12; PLG=77; AZM= 51;  (P) VAL= -5.80;  PLG= 8; AZM=175
   BEST DOUBLE COUPLE:        Mo= 5.9*10**25;    NP1:  STRIKE=310; DIP=77; SLIP= 177;   NP2:  STRIKE= 41; DIP=88; SLIP=  13
31   15 42 03.5& 35.717 N  118.400 W    9 G                    19  CENTRAL CALIFORNIA. <PAS-P>. ML 3.7 (PAS), 3.7 (BRK).
                                                                    Felt at Lake Isabella.
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31	15	47	38.9	39.998 N	71.098 E	33 N	4.6		0.6	8	TAJIK SSR. Felt (V) at Isfara and (IV) in the Andizhan area.
31	17	49	19.96	35.204 N	92.243 W	5 G				10	ARKANSAS. <TEIC>. mbLg 3.6, 3.5 (TUL). Felt (IV) at Enola. Also felt in the Naylor area.
31	18	21	19.46	35.196 N	92.253 W	4 G				13	ARKANSAS. <TEIC>. mbLg 3.6 (TUL). Felt in the Enola and Naylor areas.
31	20	13	08.7	38.695 N	142.094 E	51	5.7	5.9	0.9	220	NEAR EAST COAST OF HONSHU, JAPAN. Felt (IV JMA) in northeastern Honshu.

CMTS: (HRV) B053182C DATA: GDSN ; L.P. BODY WAVES: 14S, 41C, T= 45;
CENTROID LOCATION OT 20:13:13.2 0.3; LAT 38.52N 0.03; LON 142.48E 0.05; DEP 40.5 2.3; HALF-DURATION 3.2
MT: Scale 10**25 d-cm; MRR= 1.13 0.04; MTT= 0.09 0.05; MFF=-1.22 0.08; MRT= 0.93 0.06; MRF= 0.90 0.07; MTF=-0.43 0.05
PRINCIPAL AXES: (T) VAL= 1.79; PLG=62; AZM=335; (N) VAL= 0.02; PLG=17; AZM=211; (P) VAL= -1.81; PLG=22; AZM=114
BEST DOUBLE COUPLE: Mo= 1.8*10**25; NP1: STRIKE=175; DIP=27; SLIP= 51; NP2: STRIKE= 38; DIP=69; SLIP= 108

31	21	20	31.9*	63.220 N	150.637 W	143			0.3	9	CENTRAL ALASKA

Compiled by W. Leroy Irby, Willis L. Jacobs, John H. Minsch, Russell E. Needham, Waverly J. Person, Bruce W. Presgrave and William H. Schmieder.

Fault Plane Solutions: A fault plane solution is determined when possible from P-wave first motions for any earthquake having a magnitude of 6.5 or greater. A description of this solution is reported in the comments on the Preliminary Determination of Epicenters Monthly Listing. Focal sphere solutions and first motion parameters are available upon request from:

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U.S. Geological Survey
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DAY	ORIGIN TIME UTC HR MN SEC	GEOGRAPHIC COORDINATES LAT	LONG	DEPTH	MAGNITUDES GS MB	Msz	SD	NO. STA USED	REGION, CONTRIBUTED MAGNITUDES AND COMMENTS
01	00 59 25.9*	5.215 N	82.660 W	10 G	4.6		1.3	23	SOUTH OF PANAMA
01	01 57 11.1&	35.717 N	118.400 W	7 G				14	CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
01	02 49 10.4	24.667 N	94.769 E	71	4.6		1.0	22	BURMA-INDIA BORDER REGION
01	02 49 29.1&	35.083 N	119.017 W	6 G				12	CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
01	04 14 15.4	41.548 S	75.106 W	33 N	6.0	6.1	1.1	220	OFF COAST OF SOUTHERN CHILE. Ms 6.0 (BKS), 5.8 (PAS).
	CMTS: (HRV) C060182A DATA: GDSN ; L.P. BODY WAVES: 19S, 53C, T= 45; MANTLE WAVES: 10S, 29C, T=135								
	CENTROID LOCATION OT 4:14:16.6 0.2; LAT 41.69S 0.03; LON 75.87W 0.03; DEP 10.0 FIX; HALF-DURATION 5.0								
	MT: Scale 10**25 d-cm; MRR=-3.37 0.07; MTT=-0.86 0.08; MFF= 4.23 0.08; MRT=-1.87 0.23; MRF=-2.34 0.25; MTF= 0.31 0.07								
	PRINCIPAL AXES: (T) VAL= 5.01; PLG=17; AZM= 99; (N) VAL= -0.21; PLG=21; AZM=195; (P) VAL= -4.80; PLG=63; AZM=332								
	BEST DOUBLE COUPLE: Mo= 4.9*10**25; NP1: STRIKE=160; DIP=33; SLIP=-130; NP2: STRIKE= 25; DIP=65; SLIP= -67								
01	05 14 33.2*	64.442 N	148.142 W	33 N			0.5	6	CENTRAL ALASKA. ML 3.4 (PMR).
01	06 12 16.3	22.020 N	101.979 E	33 N	5.1	5.2	1.2	108	BURMA-CHINA BORDER REGION
01	09 07 00.2?	11.59 N	88.83 W	33 N	4.1		0.7	6	OFF COAST OF CENTRAL AMERICA
01	09 24 53.5	14.036 S	14.515 W	10 G	5.2		0.7	67	SOUTH ATLANTIC RIDGE
01	09 29 02.6	59.894 N	152.698 W	133			0.4	13	SOUTHERN ALASKA
01	09 37 25.0?	42.87 S	70.34 W	33 N	5.4		1.1	20	ARGENTINA
01	10 12 22.6*	5.215 S	103.362 E	84	5.1		1.1	38	SOUTHERN SUMATERA
01	10 18 50.8*	47.814 N	15.800 E	10 G			1.4	14	AUSTRIA. ML 3.7 (KBA). Felt in the Semmering area.
01	10 27 09.2%	41.367 N	29.526 E	10 G			0.8	5	TURKEY
01	10 27 33.8	17.276 N	120.193 E	33 N	4.1		1.4	18	LUZON, PHILIPPINE ISLANDS. Felt (IV RF) at Santa and (III RF) at Pasuquin.
01	11 02 01.0&	35.997 N	114.816 W	0 G				19	CALIFORNIA-NEVADA BORDER REGION. <GS>. ML 2.6 (GS). Felt (IV) at Boulder City, Nevada.
01	11 32 01.9	39.141 N	27.834 E	10 G			0.8	14	TURKEY
01	12 18 46.2	33.711 N	48.178 E	33 N	5.0	4.1	1.0	119	WESTERN IRAN. Felt at Khorramabad.
01	13 34 41.9	24.735 N	141.269 E	156	5.0		1.2	85	VOLCANO ISLANDS REGION
01	14 39 32.0?	28.53 N	66.81 E	33 N	4.1		1.6	8	PAKISTAN
01	14 57 10.1*	5.950 N	127.599 E	33 N	4.7		1.3	20	PHILIPPINE ISLANDS REGION
01	15 45 33.9	0.243 S	123.095 E	115	3.8		1.0	9	MINAHASSA PENINSULA
01	15 47 42.2*	33.557 S	69.498 W	33 N			0.8	7	CHILE-ARGENTINA BORDER REGION
01	19 06 30.0?	56.37 S	146.67 E	10 G	4.9	4.6	1.5	13	WEST OF MACQUARIE ISLAND
01	19 10 29.3	6.748 N	73.045 W	163	4.8		1.0	82	NORTHERN COLOMBIA. Felt at Bogota, Bucaramanga and Cucuta.
01	20 51 47.8*	43.129 N	17.577 E	10 G			1.2	8	YUGOSLAVIA. ML 3.2 (TIR).
01	21 36 04.6*	39.755 N	24.639 E	10 G			0.8	10	AEGEAN SEA
01	23 13 13.6?	13.64 N	92.26 W	33 N	4.1	3.2	1.2	5	OFF COAST OF CHIAPAS, MEXICO
01	23 37 20.2*	17.664 N	101.814 W	44	4.6		1.0	15	NEAR COAST OF GUERRERO, MEXICO
01	23 51 21.2	40.691 N	23.438 E	10 G			1.0	9	GREECE
02	01 37 19.4?	17.69 N	101.82 W	33 N			1.3	13	NEAR COAST OF GUERRERO, MEXICO
02	01 50 08.8*	45.135 N	7.784 E	10 G			0.7	16	NORTHERN ITALY
02	02 34 09.6?	50.42 N	179.52 W	33 N	3.9		0.9	5	ANDREANOF ISLANDS, ALEUTIAN IS. ML 4.2 (PMR).
02	04 06 09.5	18.489 N	69.021 W	139	4.4		0.8	37	DOMINICAN REPUBLIC REGION
02	04 25 35.5*	41.325 N	141.907 E	105	4.5		1.0	26	HOKKAIDO, JAPAN REGION
02	05 42 26.8	43.343 N	20.912 E	10 G	4.3		1.0	115	YUGOSLAVIA. ML 4.9 (ATH), 4.4 (TIR). Minor damage in southeastern Yugoslavia.
02	07 00 02.4*	12.863 S	165.905 E	88	4.7		0.8	13	SANTA CRUZ ISLANDS
02	08 21 45.0	62.298 N	151.118 W	123			0.3	12	CENTRAL ALASKA
02	09 31 08.1	39.668 N	15.425 E	285	4.3		1.0	47	SOUTHERN ITALY
02	10 06 01.4*	42.859 N	76.418 E	33 N	4.5		0.5	8	ALMA-ATA REGION. Felt (IV) at Rybachye; (III) at Cholpon-Ata, Bystrovka and Kadzhi-Say; and (II) at Frunze.
02	12 37 34.5	18.083 S	172.492 W	33 N	6.4	6.4	1.2	313	TONGA ISLANDS REGION. Ms 6.4 (BRK), 6.2 (PAS).
	FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE= 50; DIP=60; SLIP= 37. NP2: STRIKE=161; DIP=59; SLIP= 216								
	PRINCIPAL AXES: (T) PLG= 1; AZM=106. (P) PLG=46; AZM= 15								
	Moderately well controlled normal fault type mechanism with a fair amount of strike-slip component. NP to be designated as the fault plane not determined.								
	CMTS: (HRV) C060282A DATA: GDSN ; L.P. BODY WAVES: 16S, 43C, T= 45; MANTLE WAVES: 12S, 33C, T=135								
	CENTROID LOCATION OT 12:37:41.1 0.2; LAT 18.07S 0.02; LON 172.34W 0.02; DEP 11.0 FIX; HALF-DURATION 5.0								

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I 19.66:

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    MT: Scale 10**25 d-cm; MRR=-3.34 0.05; MTT=-0.19 0.06; MFF= 3.53 0.05; MRT= 1.72 0.14; MRF= 0.31 0.19; MTF= 0.91 0.04
    PRINCIPAL AXES:  (T) VAL=  3.81; PLG= 6; AZM=285;  (N) VAL=  0.28; PLG=23; AZM= 18;  (P) VAL= -4.09;  PLG=66; AZM=182
    BEST DOUBLE COUPLE:      Mo= 3.9*10**25;    NP1:  STRIKE=352; DIP=44; SLIP=-124;   NP2:  STRIKE=215; DIP=55; SLIP= -62
02   16 24 38.8* 39.749 N   23.212 E   10 G              0.5    7  AEGEAN SEA
02   17 33 03.9  16.732 S   73.992 W   33 N  4.8        1.4   23  NEAR COAST OF PERU
02   17 43 42.2% 38.608 N   27.856 E   10 G              1.3    5  TURKEY
02   18 49 15.3  44.599 N   10.901 E   10 G              0.8   29  NORTHERN ITALY. ML 2.9 (TRI), 3.1 (FIR).
02   22 47 43.6  14.090 S   76.361 W   46     5.0        1.3   50  NEAR COAST OF PERU. Felt in the Canete area.
03   01 09 31.1% 15.087 N   61.235 W   33 N              0.3    5  LEEWARD ISLANDS
03   02 32 43.0% 37.148 N   28.423 E   10 G              0.3    5  TURKEY
03   03 36 47.3   9.394 N  126.323 E   67     5.1        1.2   47  MINDANAO, PHILIPPINE ISLANDS. Felt (I RF) at Palo,
                                                                   Leyte.
03   06 43 50.8  18.887 S   68.021 W  185     5.2        1.0  136  CHILE-BOLIVIA BORDER REGION
03   10 16 00.0  12.623 S  165.782 E   33 N  5.2 4.8     1.0   94  SANTA CRUZ ISLANDS
03   11 38 10.8  44.394 N    7.330 E   10 G              1.2   45  NORTHERN ITALY. ML 3.6 (TRI).
03   13 26 09.4? 11.76  N  125.36  E   64     4.4        0.9   10  SAMAR, PHILIPPINE ISLANDS
03   14 22 29.0  39.280 N   29.105 E   10 G              1.2   11  TURKEY
03   15 13 17.9*  3.191 S  177.519 E   33 N  4.9        0.9   18  GILBERT ISLANDS REGION
03   17 24 11.0  52.222 N  168.632 W   33 N  5.3 4.9     1.0  149  FOX ISLANDS, ALEUTIAN ISLANDS
03   18 43 08.4% 40.777 N   28.012 E   10 G              0.8    7  TURKEY
03   20 51 06.0   1.460 S  147.326 E   14     5.3 4.9    1.0  104  ADMIRALTY ISLANDS REGION
04   01 32 06.3  18.678 S   70.984 W   33 N              1.1   10  NEAR COAST OF NORTHERN CHILE
04   01 50 02.5*  5.460 N  125.723 E   94                1.3    9  MINDANAO, PHILIPPINE ISLANDS
04   01 57 23.7* 39.031 S  177.588 E   33 N  5.1        1.3   28  OFF E. COAST OF N. ISLAND, N.Z.
04   02 59 37.9   6.970 S  129.861 E  149     4.8        1.1   16  BANDA SEA
04   03 00 15.6* 39.904 N   23.637 E   14                0.8   14  AEGEAN SEA. ML 2.9 (ATH).
04   03 01 04.1  51.597 N  177.333 W   59     5.8        0.9  317  ANDREANOF ISLANDS, ALEUTIAN IS. Ms 5.7 (BRK). Felt (V)
                                                                   on Adak.
    CMTS:  (HRV) B0604824    DATA:  GDSN          ;  L.P. BODY WAVES:  17S, 48C, T= 45;
    CENTROID LOCATION   OT  3: 1: 4.3 0.2;  LAT 51.21N 0.02;  LON 177.55W 0.06;  DEP  42.4 1.8;        HALF-DURATION  3.2
    MT: Scale 10**24 d-cm; MRR= 8.31 0.20; MTT=-9.06 0.24; MFF= 0.76 0.26; MRT= 6.28 0.41; MRF= 5.04 0.37; MTF=-3.38 0.34
    PRINCIPAL AXES:  (T) VAL= 11.74; PLG=66; AZM=302;  (N) VAL=  1.10; PLG=13; AZM= 64;  (P) VAL=-12.84;  PLG=20; AZM=159
    BEST DOUBLE COUPLE:      Mo= 1.2*10**25;    NP1:  STRIKE=271; DIP=28; SLIP= 120;   NP2:  STRIKE= 58; DIP=66; SLIP=  75
04   03 12 48.9* 39.747 N  120.051 W    5 G              1.1   10  NORTHERN CALIFORNIA. ML 3.3 (BRK). Felt (IV) at Vinton.
04   06 28 36.6? 52.04  N  168.44  W   33 N  4.7        0.8    8  FOX ISLANDS, ALEUTIAN ISLANDS
04   07 04 24.6* 21.927 N  121.537 E  107     4.3        1.0   21  TAIWAN REGION
04   07 41 32.0? 2.16   N   95.89  W   10 G  4.1 4.2     0.8    6  GALAPAGOS ISLANDS REGION
04   07 44 55.86 47.706 N  122.092 W    7 G                    5  WASHINGTON. <SEA>. ML 2.5, CL 2.9 (SEA). Felt (IV) in
                                                                   the Avondale area. Felt in the
                                                                   Kirkland-Redmond-Woodinville area.
04   09 25 56.3* 52.259 N  168.749 W   33 N  4.6        0.9   11  FOX ISLANDS, ALEUTIAN ISLANDS
04   10 44 33.5  50.537 N   19.062 E   10 G              1.1   19  POLAND. ML 4.6 (GRF). Several people were injured and
                                                                   350 buildings were damaged at Bytom.
04   11 38 57.2* 52.334 N  168.711 W   33 N  4.5        1.1   12  FOX ISLANDS, ALEUTIAN ISLANDS
04   11 59 01.6* 37.472 N  118.402 W    5 G              1.0    7  CALIFORNIA-NEVADA BORDER REGION. ML 3.0. Felt at
                                                                   Bishop, California.
04   12 50 20.0* 52.235 N  168.594 W   33 N  4.7 4.1     1.3   44  FOX ISLANDS, ALEUTIAN ISLANDS
04   13 12 15.5   1.485 N  117.915 E   33 N  5.1        1.2   34  KALIMANTAN
04   14 00 44.2? 51.20  N  177.27  W   41     4.1        1.0   14  ANDREANOF ISLANDS, ALEUTIAN IS.
04   15 21 33.1   4.093 N  124.523 E  328 D  5.7        1.1  212  CELEBES SEA
    CMTS:  (HRV) B0604828    DATA:  GDSN          ;  L.P. BODY WAVES:  13S, 34C, T= 45;
    CENTROID LOCATION   OT 15:21:40.6 0.2;  LAT  4.11N 0.02;  LON 124.50E 0.02;  DEP 332.2 1.7;        HALF-DURATION  3.0
    MT: Scale 10**24 d-cm; MRR=-3.92 0.23; MTT= 1.61 0.29; MFF= 2.31 0.30; MRT=-7.40 0.30; MRF=-7.23 0.25; MTF= 1.04 0.25
    PRINCIPAL AXES:  (T) VAL= 10.45; PLG=36; AZM=133;  (N) VAL=  0.93; PLG= 2; AZM=225;  (P) VAL=-11.38;  PLG=54; AZM=317
    BEST DOUBLE COUPLE:      Mo= 1.1*10**25;    NP1:  STRIKE=213; DIP= 9; SLIP=-102;   NP2:  STRIKE= 45; DIP=81; SLIP= -88
04   15 58 18.5* 52.353 N  168.674 W   33 N  4.7        1.1   34  FOX ISLANDS, ALEUTIAN ISLANDS
04   16 10 34.1& 47.708 N  122.117 W    6 G                    5  WASHINGTON. <SEA>. ML 2.6, CL 3.1 (SEA). Felt in the
                                                                   Redmond-Kirkland-Bothell area.
04   16 19 05.0  13.880 N  145.048 E  120     5.1        0.8   39  MARIANA ISLANDS. Felt (III) on Guam.
04   16 41 48.3& 37.490 N  118.358 W   26 G                   15  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 4.3 (BRK).
                                                                   Felt (IV) at Bishop, California. Felt (III) at Crowley
                                                                   Lake, California and Dyer, Nevada.
04   19 23 42.1  44.432 N  148.326 E   33 N  5.6        0.8  183  KURIL ISLANDS
    CMTS:  (HRV) B060482C    DATA:  GDSN          ;  L.P. BODY WAVES:  10S, 23C, T= 45;
    CENTROID LOCATION   OT 19:23:48.4 0.6;  LAT 44.42N 0.07;  LON 148.26E 0.13;  DEP  56.1 7.9;        HALF-DURATION  1.2
    MT: Scale 10**23 d-cm; MRR=-1.37 0.47; MTT= 3.97 0.50; MFF=-2.60 0.69; MRT= 4.11 0.58; MRF= 3.69 0.55; MTF=-1.51 0.52
    PRINCIPAL AXES:  (T) VAL=  6.23; PLG=30; AZM=356;  (N) VAL=  0.87; PLG=33; AZM=244;  (P) VAL= -7.10;  PLG=42; AZM=117
    BEST DOUBLE COUPLE:      Mo= 6.7*10**23;    NP1:  STRIKE=139; DIP=34; SLIP= -12;   NP2:  STRIKE=239; DIP=83; SLIP=-124
04   20 28 06.9  41.736 N   23.785 E   10 G              0.8   12  GREECE-BULGARIA BORDER REGION
04   21 33 38.9* 4.690  S  144.483 E   61     4.6        0.6   16  NEAR N COAST OF PAPUA NEW GUINEA
04   21 38 09.1  39.101 N   27.743 E   10 G              1.0   11  TURKEY
04   23 01 24.6* 21.487 S  175.953 W  164     5.0        1.2   37  TONGA ISLANDS
05   00 17 00.3  43.097 S   75.214 W   33 N  5.4 5.0     1.1   64  OFF COAST OF SOUTHERN CHILE
05   00 56 20.2& 36.907 N  121.708 W    7 G                   13  CENTRAL CALIFORNIA. <BRK>. ML 3.2 (BRK).
05   01 29 13.5% 15.995 N   61.605 W  107                0.4    9  LEEWARD ISLANDS
05   01 35 58.1* 61.627 N  146.255 W   33 N              1.0   10  SOUTHERN ALASKA. ML 3.0 (PMR).
05   03 08 14.7  47.842 N  147.004 E  405     4.4        0.8   42  NORTHWEST OF KURIL ISLANDS
05   05 57 12.7? 13.63  N  124.97  E   33 N              0.1    5  LUZON, PHILIPPINE ISLANDS
05   09 54 24.1& 38.783 N  119.898 W   35 G                   15  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.9 (BRK).
                                                                   Felt (IV) at Markleeville, California and Zephyr Cove,
                                                                   Nevada. Felt (III) at Genoa, Nevada and South Lake
                                                                   Tahoe, California.
05   11 56 03.5  45.599 N   26.495 E  159     3.5        0.7   22  ROMANIA
05   12 48 35.0  17.872 S  173.334 W   33 N  4.6        1.3   18  TONGA ISLANDS
05   13 25 05.8  18.353 N  145.273 E  504     4.8        0.9   59  MARIANA ISLANDS
05   15 33 44.3* 39.864 N   23.728 E   10 G              0.8    9  AEGEAN SEA
05   17 54 12.7  45.696 N   14.630 E   10 G              1.1   45  YUGOSLAVIA. Felt in the Dolenjsko region. ML 4.3 (GRF),
                                                                   3.7 (TRI).
05   18 04 47.7? 22.60  S  176.27  W  149     4.2        0.8    8  SOUTH OF FIJI ISLANDS
05   19 06 32.1? 14.83  S  167.47  E  137                0.8   13  VANUATU ISLANDS
05   19 36 23.0* 3.078  S   28.477 E   10 G  4.7        1.3   13  LAKE TANGANYIKA REGION
05   20 40 24.7* 56.974 N  154.685 W   33 N              0.7    7  KODIAK ISLAND REGION. ML 4.1 (PMR).
05   22 27 29.6% 15.971 N   60.772 W   33 N              0.2    8  LEEWARD ISLANDS
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05   23 15 59.5* 44.935 N   17.312 E   10 G            1.4    7  YUGOSLAVIA
06   00 03 20.2  36.466 N   70.096 E  218    4.1       1.5   15  HINDU KUSH REGION
06   00 11 59.1* 19.581 S  125.042 W   10 G  5.2 4.5    0.8   37  SOUTH PACIFIC OCEAN
06   00 52 13.0  50.974 N  130.395 W   10 G  4.9 4.6    1.3  118  VANCOUVER ISLAND REGION
06   01 13 59.5  52.196 N  168.612 W   33 N  5.2 4.5    0.9  117  FOX ISLANDS, ALEUTIAN ISLANDS
06   01 25 01.9* 24.356 N  123.579 E   33 N  4.5        0.6   12  SOUTHWESTERN RYUKYU ISLANDS
06   01 32 42.1% 39.060 N   26.123 E   10 G            0.4    5  TURKEY
06   02 28 07.6? 17.28  N  101.07  W   33 N  4.1        1.0    8  NEAR COAST OF GUERRERO, MEXICO
06   05 07 29.6? 53.02  N  166.87  W   33 N  4.5        0.8   11  FOX ISLANDS, ALEUTIAN ISLANDS
06   05 32 57.0* 39.214 N   25.611 E   10 G  4.0        0.9   25  AEGEAN SEA. ML 4.0 (ATH).
06   06 47 27.3* 18.443 S  178.256 W  489    4.5        1.4   25  FIJI ISLANDS REGION
06   07 00 08.5? 39.48  N  121.60  W    5 G            0.7    6  NORTHERN CALIFORNIA. ML 2.9. Felt in the Oroville area.
06   07 36 45.5* 17.608 S  172.995 W   33 N  4.4        1.3    7  TONGA ISLANDS REGION
06   07 52 52.6  40.695 N   23.185 E   10 G            0.8   10  GREECE
06   10 20 31.3  35.357 N   36.023 W   10 G  5.3 5.7    0.9  145  NORTH ATLANTIC RIDGE
     CMTS:  (HRV) B060682A   DATA:  GDSN            ;  L.P. BODY WAVES:  17S, 48C, T= 45;
     CENTROID LOCATION    OT 10:20:47.8 0.2;  LAT 35.22N 0.02;  LON  35.68W 0.03;  DEP  10.0 FIX;          HALF-DURATION  3.5
     MT: Scale 10**25 d-cm; MRR= 0.22 0.05; MTT= 1.26 0.06; MFF=-1.47 0.06; MRT= 1.10 0.18; MRF= 1.13 0.19; MTF= 2.95 0.06
     PRINCIPAL AXES:  (T) VAL=  3.80; PLG=23; AZM=326;  (N) VAL= -0.40; PLG=66; AZM=163;  (P) VAL= -3.40;  PLG= 6; AZM= 59
     BEST DOUBLE COUPLE:      Mo= 3.6*10**25;    NP1:  STRIKE=105; DIP=69; SLIP=  12;    NP2:  STRIKE= 10; DIP=78; SLIP= 159
06   14 06 11.2? 32.36  S  122.26  E   33 N  3.3        1.2    8  WESTERN AUSTRALIA
06   14 24 32.4*  7.597 N  126.714 E   33 N  3.7        0.2    5  MINDANAO, PHILIPPINE ISLANDS
06   17 02 18.8* 55.748 N  154.476 W   33 N  4.3        0.7   16  SOUTH OF ALASKA. ML 4.4 (PMR).
06   19 23 21.0? 33.86  S   71.35  W   44               1.0    5  NEAR COAST OF CENTRAL CHILE
06   19 37 48.3? 18.15  N   83.06  W   10 G  4.4        0.7   15  CARIBBEAN SEA
06   20 17 55.5* 18.049 S  172.603 W   33 N  4.8        1.3   35  TONGA ISLANDS REGION
06   23 03 54.8  26.563 N  128.953 E   33 N  4.8        0.9   44  RYUKYU ISLANDS
06   23 28 52.3? 17.77  S  173.11  W  143    4.3        0.2    7  TONGA ISLANDS
06   23 40 57.2  17.953 S  172.379 W   33 N  5.1 5.5    1.1   80  TONGA ISLANDS REGION
06   23 56 58.4? 18.35  S  172.59  W   33 N  4.5        0.3    7  TONGA ISLANDS REGION
07   00 24 14.9* 60.877 S  154.575 E   10 G  5.2        1.5   13  WEST OF MACQUARIE ISLAND
07   00 31 25.3  36.962 N   27.993 E   10 G  4.6        1.1   61  DODECANESE ISLANDS. ML 4.6 (ATH).
07   00 31 27.2* 37.136 N   27.907 E   10 G      3.8    1.1   13  TURKEY
07   00 56 13.4  27.917 S   26.829 E    5 G  4.7        1.1   15  REPUBLIC OF SOUTH AFRICA
07   02 12 06.4* 21.895 N  102.068 E   33 N  4.4        1.4   10  SOUTHEAST ASIA
07   04 51 44.2* 17.731 S  172.995 W   33 N  4.5        0.9   12  TONGA ISLANDS REGION
07   05 39 27.8  58.548 N  164.259 E   33 N  5.1        0.7   99  KAMCHATKA
07   06 52 37.3  16.607 N   98.149 W   41    6.0 6.9    1.1  272  NEAR COAST OF GUERRERO, MEXICO. Ms 7.2 (BRK), 6.7
                                                               (PAS). Damage in southern Mexico. Felt strongly
                                                               throughout southern Mexico.
          FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=140;  DIP=65;  SLIP=  90.   NP2:  STRIKE=320;  DIP=25;  SLIP=  90
          PRINCIPAL AXES:   (T)  PLG=70;  AZM= 50.   (P)  PLG=20;  AZM=230
                                                               Poorly controlled reverse fault type mechanism. NP2
                                                               designated as the fault plane.
     CMTS:  (HRV) C060782A   DATA:  GDSN            ;  L.P. BODY WAVES:  16S, 44C, T= 45;   MANTLE WAVES:  11S, 29C, T=135
     CENTROID LOCATION    OT  6:52:43.6 0.1;  LAT 16.50N 0.01;  LON  98.22W 0.01;  DEP  10.7 0.9;          HALF-DURATION  8.0
     MT: Scale 10**26 d-cm; MRR= 0.73 0.02; MTT=-0.74 0.02; MFF= 0.01 0.02; MRT= 2.11 0.14; MRF=-1.82 0.12; MTF= 0.27 0.01
     PRINCIPAL AXES:  (T) VAL=  2.91;  PLG=52; AZM= 47;  (N) VAL= -0.03;  PLG= 6; AZM=309;  (P) VAL= -2.88;  PLG=37; AZM=214
     BEST DOUBLE COUPLE:      Mo= 2.9*10**26;    NP1:  STRIKE=268; DIP=10; SLIP=  48;    NP2:  STRIKE=130; DIP=83; SLIP=  96
07   10 04 13.8* 16.116 N   98.497 W   33 N  4.2        0.9   20  NEAR COAST OF GUERRERO, MEXICO
07   10 11 03.1? 37.14  N   28.00  E   10 G            1.6    5  TURKEY
07   10 59 40.1  16.558 N   98.358 W   34    6.3 7.0    1.1  307  NEAR COAST OF GUERRERO, MEXICO. Ms 6.9 (BRK), 6.3
                                                               (PAS). Two people killed at Orizaba, 3 at Oaxaca, 3 at
                                                               Pinotepa Nacional and 1 at Guadalupe, Guerrero. Many
                                                               people injured. Felt strongly throughout southern
                                                               Mexico.
          FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=140;  DIP=65;  SLIP=  90.   NP2:  STRIKE=320;  DIP=25;  SLIP=  90
          PRINCIPAL AXES:   (T)  PLG=70;  AZM= 50.   (P)  PLG=20;  AZM=230
                                                               Poorly controlled reverse fault type mechanism. NP2
                                                               designated as the fault plane.
     CMTS:  (HRV) C060782B   DATA:  GDSN            ;  L.P. BODY WAVES:  16S, 44C, T= 45;   MANTLE WAVES:  12S, 33C, T=135
     CENTROID LOCATION    OT 10:59:53.0 0.2;  LAT 16.93N 0.02;  LON  98.32W 0.02;  DEP  18.6 1.1;          HALF-DURATION  9.0
     MT: Scale 10**26 d-cm; MRR= 1.01 0.02; MTT=-0.88 0.02; MFF=-0.13 0.02; MRT= 2.10 0.17; MRF=-1.28 0.11; MTF= 0.41 0.02
     PRINCIPAL AXES:  (T) VAL=  2.65; PLG=56; AZM= 34;  (N) VAL=  0.03; PLG= 3; AZM=300;  (P) VAL= -2.68;  PLG=34; AZM=208
     BEST DOUBLE COUPLE:      Mo= 2.7*10**26;    NP1:  STRIKE=286; DIP=12; SLIP=  76;    NP2:  STRIKE=121; DIP=79; SLIP=  93
07   11 11 16.8? 17.16  N   98.91  W   33 N            0.9    6  GUERRERO, MEXICO
07   11 29 05.3  54.220 N  162.863 E   33 N  5.2        0.8   94  NEAR EAST COAST OF KAMCHATKA
07   12 13 04.1? 20.59  S   38.48  E   10 G            0.1    6  MOZAMBIQUE CHANNEL
07   12 48 46.2? 16.55  N   98.48  W   33 N            1.6    4  NEAR COAST OF GUERRERO, MEXICO
07   13 29 03.7* 38.454 N  142.105 E   87    4.5       0.8   36  NEAR EAST COAST OF HONSHU, JAPAN
07   14 19 09.0* 16.354 N   98.391 W   33 N  4.6        1.0   35  NEAR COAST OF GUERRERO, MEXICO
07   14 21 43.4% 23.309 N  121.699 E   33 N            0.3    5  TAIWAN
07   14 44 45.4? 16.25  N   98.80  W   33 N  3.8        1.2    6  NEAR COAST OF GUERRERO, MEXICO
07   14 50 28.2* 31.936 S   67.792 W   10 G  4.4        1.3    9  SAN JUAN PROVINCE, ARGENTINA. Felt (III) at San Juan.
07   15 32 36.2? 16.08  N   98.47  W   33 N            1.0    4  NEAR COAST OF GUERRERO, MEXICO
07   15 51 32.8? 1.70   S  128.16  E   69    4.1       1.5    9  HALMAHERA
07   16 09 19.6? 52.03  N  168.45  W   33 N  4.4        1.1    7  FOX ISLANDS, ALEUTIAN ISLANDS
07   16 48 51.7? 37.25  N   28.08  E   10 G            1.0    7  TURKEY
07   18 02 37.3  43.440 N   11.934 E   10 G            1.1   15  CENTRAL ITALY. ML 3.0 (PIR), 3.0 (TRI). Felt at
                                                               Monerchi.
07   18 09 48.0? 16.28  N   98.21  W   33 N  3.7        1.6    8  NEAR COAST OF GUERRERO, MEXICO
07   18 23 48.0? 15.82  N   98.46  W   33 N            0.8    5  OFF COAST OF GUERRERO, MEXICO
07   19 02 22.5? 15.20  N   98.54  W   33 N  4.1        1.2   17  OFF COAST OF GUERRERO, MEXICO
07   19 40 09.6? 51.26  N   15.11  E   10 G            0.8   10  POLAND
07   20 08 07.5? 14.49  N   99.01  W   33 N            1.0    7  OFF COAST OF GUERRERO, MEXICO
07   20 21 54.0* 47.582 N   15.207 E   10 G            1.3    9  AUSTRIA. Felt (IV) at Kapfenberg.
07   21 01 17.7* 36.605 N  140.429 E   33 N            0.5    6  NEAR EAST COAST OF HONSHU, JAPAN
07   22 41 15.4*  6.214 S  129.929 E  164    4.4       1.0   15  BANDA SEA
07   23 02 07.9? 16.47  N   98.06  W   33 N            1.0    9  NEAR COAST OF GUERRERO, MEXICO
08   00 38 39.1% 23.916 N  122.668 E   33 N            0.4    5  TAIWAN REGION
08   00 39 40.5? 15.10  N   98.35  W   33 N            1.2    5  OFF COAST OF GUERRERO, MEXICO
08   01 56 33.2* 16.374 N   98.364 W   33 N  4.1        0.8   13  NEAR COAST OF GUERRERO, MEXICO
08   03 31 35.1  62.741 N  149.660 W  114               0.7   22  CENTRAL ALASKA
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08   07 08 11.5* 40.705 N   23.388 E   10 G                    0.5    9  GREECE
08   08 01 47.0* 16.265 N   98.596 W   33 N  4.7               0.7   49  NEAR COAST OF GUERRERO, MEXICO
08   08 04 28.7? 15.78  N   98.71  W   33 N  4.6               1.0   16  OFF COAST OF GUERRERO, MEXICO
08   09 40 51.7* 37.713 N  102.521 E   44     4.5             1.2   11  GANSU PROVINCE, CHINA
08   15 48 29.1* 51.444 N   15.961 E   10 G                    0.8   11  POLAND. ML 4.0 (GRF).
08   16 04 30.6  39.844 N  142.000 E  105     4.7             0.8   30  HONSHU, JAPAN
08   16 30 41.4  41.940 S   88.306 E   10 G  5.4 5.6          1.0   55  SOUTHEAST INDIAN RISE
08   16 33 39.5* 51.156 N   15.831 E   10 G                    0.9    6  POLAND. ML 3.4 (GRF).
08   20 05 35.8& 35.750 N  117.717 W    5 G                           9  CENTRAL CALIFORNIA. <PAS-P>. ML 3.4 (PAS).
08   21 21 10.5? 27.58  S  176.09  W   33 N  4.4               1.3    7  KERMADEC ISLANDS REGION
08   21 28 54.6  18.474 N  120.901 E   33 N  3.7               1.3   28  LUZON, PHILIPPINE ISLANDS
08   22 47 46.4  44.587 N  115.150 W    5 G                    0.6   17  WESTERN IDAHO. ML 3.7, 3.7 (MSO). Felt (III) at Lowman.
09   00 39 19.8? 18.29  N   99.86  W   33 N                    1.2    5  GUERRERO, MEXICO
09   01 57 20.0& 34.853 N  119.037 W    8 G                           9  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
09   02 09 09.4? 17.81  N   99.27  W   33 N                    0.7    5  GUERRERO, MEXICO
09   03 08 35.4   5.708 S  150.962 E   84     5.9             1.0  299  NEW BRITAIN REGION
     CMTS:  (HRV) C060982A   DATA:  GDSN          ; L.P. BODY WAVES:  17S, 50C, T= 45;   MANTLE WAVES:  10S, 28C, T=135
     CENTROID LOCATION    OT  3: 8:37.7 0.1;  LAT  5.86S 0.01;  LON 150.90E 0.02;  DEP  43.6 1.0;          HALF-DURATION  6.0
     MT: Scale 10**25 d-cm; MRR= 3.51 0.06; MTT=-3.35 0.06; MFF=-0.16 0.07; MRT= 2.66 0.12; MRF= 0.67 0.12; MTF=-0.60 0.05
     PRINCIPAL AXES:  (T) VAL=  4.47; PLG=71; AZM=343;  (N) VAL= -0.06; PLG= 2; AZM= 78;  (P) VAL= -4.41;  PLG=19; AZM=169
     BEST DOUBLE COUPLE:      Mo= 4.4*10**25;    NP1:  STRIKE=262; DIP=26; SLIP=  94;   NP2:  STRIKE= 77; DIP=64; SLIP=  88
09   03 27 09.2& 33.950 N  116.883 W   14 G                          12  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.2 (PAS). Felt at
                                                                         Palm Springs.
09   04 13 39.0  40.435 N   28.852 E   10 G  4.5               1.5   67  TURKEY. ML 4.7 (ATH).
09   04 20 56.0* 20.510 S  173.915 W  101     4.5             0.9   23  TONGA ISLANDS
09   06 38 48.9* 30.808 N  141.854 E   33 N  4.5               0.9   19  SOUTH OF HONSHU, JAPAN
09   07 43 13.0* 46.147 S   95.384 E   10 G  5.2 5.6          1.0   13  SOUTHEAST INDIAN RISE
     CMTS:  (HRV) B060982B   DATA:  GDSN          ; L.P. BODY WAVES:  11S, 30C, T= 45;
     CENTROID LOCATION    OT  7:43:19.6 0.7;  LAT 46.60S 0.08;  LON  95.78E 0.10;  DEP  10.0 FIX;          HALF-DURATION  3.0
     MT: Scale 10**24 d-cm; MRR=-0.40 0.11; MTT=-1.33 0.13; MFF= 1.73 0.12; MRT= 0.22 0.30; MRF=-1.68 0.41; MTF=-1.15 0.10
     PRINCIPAL AXES:  (T) VAL=  2.94; PLG=27; AZM= 74;  (N) VAL= -1.09; PLG=54; AZM=207;  (P) VAL= -1.85;  PLG=23; AZM=331
     BEST DOUBLE COUPLE:      Mo= 2.4*10**24;    NP1:  STRIKE=111; DIP=54; SLIP= 177;   NP2:  STRIKE=203; DIP=87; SLIP=  36
09   09 59 41.6? 32.68  S   74.11  W   33 N                    1.1    6  OFF COAST OF CENTRAL CHILE
09   10 09 25.8? 43.17  N    0.30  E   10 G                    1.0    9  FRANCE
09   10 57 45.1* 1.577  N  126.834 E   33 N  4.7               1.3    7  MOLUCCA PASSAGE
09   11 06 05.7? 16.25  N   98.14  W   33 N                    1.3    5  NEAR COAST OF GUERRERO, MEXICO
09   11 30 44.8* 16.658 N   98.333 W   33 N  4.9               1.1   56  NEAR COAST OF GUERRERO, MEXICO
09   12 19 29.1* 40.327 N   25.275 E   10 G                    1.1   13  AEGEAN SEA
09   12 57 10.1  40.360 N   25.340 E   10 G                    0.6   21  AEGEAN SEA. ML 3.5 (ATH).
09   15 48 31.2* 31.640 S   68.693 W  116                      0.3    5  SAN JUAN PROVINCE, ARGENTINA
09   15 52 20.5* 40.281 N   25.343 E   10 G                    0.9   10  AEGEAN SEA
09   15 54 56.7? 40.34  N   25.23  E   10 G                    0.6    6  AEGEAN SEA
09   16 11 34.0* 16.565 N   98.280 W   33 N  4.6               0.9   43  NEAR COAST OF GUERRERO, MEXICO
09   19 37 56.5  38.414 N   21.869 E   26     4.6             1.2   53  GREECE. ML 3.9 (ATH). Felt at Patrai, Aiyion and
                                                                         Navpakton.
09   20 26 53.5  26.174 N  125.868 E  143     4.7             1.0   41  NORTHEAST OF TAIWAN
09   22 38 45.2  16.089 S   72.044 W  130     4.5             1.2   29  NEAR COAST OF PERU
10   01 03 09.2* 42.954 N   12.597 E   13                     1.0   10  CENTRAL ITALY. Felt in the Perugia area. ML 3.1 (FIR).
10   02 13 54.3  30.870 N  141.814 E   33 N  5.1 5.0          1.0   91  SOUTH OF HONSHU, JAPAN
10   03 51 07.4* 17.575 S  173.074 W   33 N  4.5               1.5   12  TONGA ISLANDS
10   04 17 30.4  37.040 N   45.109 E   33 N  4.6               1.1   43  NORTHWESTERN IRAN. Felt at Urmia.
10   04 52 19.2* 31.221 S   68.564 W  119                      0.3    5  SAN JUAN PROVINCE, ARGENTINA
10   05 29 31.8*  3.223 N   89.834 E   10 G  4.9               0.9   18  NORTH INDIAN OCEAN
10   06 27 08.4? 35.81  N   31.33  E   61     3.8             0.9   17  CYPRUS
10   07 42 33.7* 21.468 S   67.422 W  195     4.7             1.5   11  CHILE-BOLIVIA BORDER REGION
10   08 06 01.5& 32.617 N  115.650 W    8 G                           5  CALIFORNIA-MEXICO BORDER REGION. <PAS-P>. ML 3.0 (PAS).
10   09 35 01.6  57.248 N   33.375 W   10 G  4.7 4.7          0.9   57  NORTH ATLANTIC OCEAN
10   11 41 57.9* 15.146 N   93.296 W   79     4.4             1.0   24  NEAR COAST OF CHIAPAS, MEXICO
10   11 43 07.4  21.393 S   67.403 W  199 D  5.0             1.2  120  CHILE-BOLIVIA BORDER REGION
10   12 41 43.5* 42.692 N   18.963 E   10 G                    1.1    7  YUGOSLAVIA. ML 3.6 (TRI).
10   14 28 31.4*  2.257 N   79.466 W   33 N  4.3               0.5    7  SOUTH OF PANAMA
10   16 24 44.4* 43.491 N  127.075 W   10 G  4.9 4.7          1.0   63  OFF COAST OF OREGON
10   16 45 56.3  33.246 S   68.810 W   33 N                    1.0    9  MENDOZA PROVINCE, ARGENTINA
10   16 49 16.4*  2.493 N   79.447 W   33 N  4.7               1.6   12  SOUTH OF PANAMA
10   19 50 58.3? 42.66  N   18.96  E   10 G                    1.0    5  YUGOSLAVIA. ML 3.1 (BCI).
10   21 04 54.3? 14.61  N   96.89  W   33 N                    1.0    9  OFF COAST OF OAXACA, MEXICO
10   21 27 45.9  31.547 N   82.119 E   33 N  4.9 4.6          1.2   42  TIBET
11   00 29 07.5  26.140 N  140.950 E  144 D  4.2             0.9   16  BONIN ISLANDS REGION
11   00 38 09.8  17.616 S  174.414 W  123 D  6.3             1.1  339  TONGA ISLANDS. mb 6.9 (PAS). Felt (IV) at Apia, Samoa
                                                                         Islands.
     CMTS:  (HRV) C061182A   DATA:  GDSN          ; L.P. BODY WAVES:  15S, 44C, T= 45;   MANTLE WAVES:  11S, 33C, T=135
     CENTROID LOCATION    OT  0:38:22.7 0.1;  LAT 17.40S 0.02;  LON 174.09W 0.01;  DEP 113.2 0.8;          HALF-DURATION  8.5
     MT: Scale 10**26 d-cm; MRR=-0.66 0.02; MTT= 0.04 0.03; MFF= 0.62 0.02; MRT=-0.07 0.02; MRF=-1.85 0.02; MTF= 0.49 0.02
     PRINCIPAL AXES:  (T) VAL=  2.04; PLG=34; AZM=105;  (N) VAL= -0.03; PLG=13; AZM=  6;  (P) VAL= -2.01;  PLG=53; AZM=259
     BEST DOUBLE COUPLE:      Mo= 2.0*10**26;    NP1:  STRIKE=237; DIP=16; SLIP= -38;   NP2:  STRIKE=  4; DIP=80; SLIP=-103
11   01 06 08.2  17.680 S  174.411 W  119 D  5.5             1.1  121  TONGA ISLANDS
11   01 09 57.0* 47.357 N   11.609 E   10 G                    0.8    7  AUSTRIA. ML 3.0 (FUR).
11   01 20 41.3  17.635 S  174.372 W  121 D  4.9             1.2   37  TONGA ISLANDS
11   02 57 13.8  39.545 N   23.663 E   10 G  4.3               1.1   37  AEGEAN SEA. ML 4.1 (ATH).
11   03 10 56.7* 31.764 S   69.917 W  134                      1.2    9  SAN JUAN PROVINCE, ARGENTINA
11   04 01 34.3? 17.33  S  174.48  W  123 D  4.3             0.9   13  TONGA ISLANDS
11   05 44 14.0  39.679 N   23.632 E   10 G                    1.0   14  AEGEAN SEA. ML 3.2 (ATH).
11   09 57 45.2* 40.316 N   25.416 E   10 G                    1.2    7  AEGEAN SEA
11   10 22 54.0* 44.369 N  148.303 E   33 N  4.6               0.8   26  KURIL ISLANDS
11   10 44 26.6* 37.287 N   28.060 E   10 G                    1.3   11  TURKEY. ML 3.9 (ATH).
11   11 41 48.8  85.642 N   87.328 E   10 G  5.0 4.9          1.0  132  NORTH OF SEVERNAYA ZEMLYA
11   11 42 46.4  85.646 N   87.383 E   10 G  5.0              0.7   53  NORTH OF SEVERNAYA ZEMLYA
11   11 49 53.8  85.747 N   86.602 E   10 G  5.0 4.9          0.8  112  NORTH OF SEVERNAYA ZEMLYA
11   12 07 08.9* 85.992 N   82.595 E   10 G  4.7              1.1   19  NORTH OF SEVERNAYA ZEMLYA
11   12 39 30.7* 4.098  S  104.324 W   10 G  4.7 5.0          0.9   22  NORTHERN EASTER I. CORDILLERA
11   12 45 37.2  85.663 N   86.654 E   10 G  4.7              0.9   39  NORTH OF SEVERNAYA ZEMLYA
11   13 08 00.6* 85.928 N   84.225 E   10 G  4.5              0.9   11  NORTH OF SEVERNAYA ZEMLYA
11   13 10 07.3? 5.60   N  126.53  E   33 N  3.8             1.4    6  MINDANAO, PHILIPPINE ISLANDS
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11	13	47	54.0*	85.874	N	84.773	E	10	G	4.7		1.0	17	NORTH OF SEVERNAYA ZEMLYA
11	13	50	02.4*	2.517	S	148.780	E	97		4.1		0.5	7	ADMIRALTY ISLANDS REGION
11	13	57	34.3?	0.54	N	127.21	E	33	N	4.6		0.7	7	HALMAHERA
11	14	03	11.8*	27.934	S	67.714	W	33	N	4.9		1.5	15	CATAMARCA PROVINCE, ARGENTINA
11	15	48	35.2	31.259	S	69.272	W	123		4.1		0.8	14	SAN JUAN PROVINCE, ARGENTINA
11	16	16	27.1*	41.991	N	0.513	E	10	G			0.9	9	SPAIN. ML 3.0 (LDG).
11	17	07	44.0*	13.865	N	123.490	E	10	G			0.8	7	LUZON, PHILIPPINE ISLANDS
11	17	29	06.7?	14.54	N	99.78	W	33	N			1.0	5	OFF COAST OF GUERRERO, MEXICO
11	18	17	05.7	50.366	N	8.105	E	10	G			0.9	14	GERMANY. ML 3.1 (LDG), 2.5 (GRF).
11	18	17	37.0	39.313	N	25.445	E	10	G			0.8	18	AEGEAN SEA. ML 3.4 (ATH).
11	18	22	15.0*	50.468	N	8.347	E	10	G			0.9	7	GERMANY. ML 2.7 (LDG).
11	18	33	02.0	50.441	N	7.941	E	10	G			1.3	10	GERMANY. ML 2.9 (LDG).
11	19	48	44.6*	43.119	N	0.365	W	10	G			1.4	13	PYRENEES. ML 3.6 (LDG).
11	20	14	28.5	15.092	S	179.195	W	426		5.2		0.9	128	FIJI ISLANDS REGION
11	20	26	03.5	5.547	S	147.313	E	199		5.2		1.0	29	EAST PAPUA NEW GUINEA REGION
11	21	39	15.7	85.681	N	87.517	E	10	G	4.6	4.3	1.0	63	NORTH OF SEVERNAYA ZEMLYA
11	21	41	24.4?	7.30	S	129.85	E	109		4.3		0.4	6	BANDA SEA
11	21	57	33.6	18.752	N	64.384	W	48		5.2		0.9	117	VIRGIN ISLANDS. Felt in the Virgin Islands and in eastern Puerto Rico. Felt (IV) at Roosevelt Roads Naval Station, Puerto Rico.
11	22	08	58.2*	32.638	S	71.835	W	33	N	4.0		1.3	19	NEAR COAST OF CENTRAL CHILE. Felt (III) at Santiago and (II) at Valparaiso and San Felipe.
11	22	17	07.7?	5.13	N	84.27	W	10	G	4.3		1.3	8	OFF COAST OF CENTRAL AMERICA
11	23	00	09.5*	47.384	N	10.635	E	10	G			1.0	5	AUSTRIA
11	23	35	17.8*	85.904	N	84.328	E	10	G	4.7	4.2	1.0	27	NORTH OF SEVERNAYA ZEMLYA
12	00	15	09.4	85.718	N	85.925	E	10	G	5.1	5.1	1.1	172	NORTH OF SEVERNAYA ZEMLYA
12	00	34	31.2*	10.759	N	141.622	E	33	N	5.0		1.4	11	WEST CAROLINE ISLANDS
12	02	05	49.4*	21.838	N	102.036	E	33	N	4.0		1.7	7	SOUTHEAST ASIA
12	03	10	54.6*	22.054	N	121.545	E	135		3.6		1.1	13	TAIWAN REGION
12	03	38	47.9?	22.72	S	176.21	W	33	N	5.0		0.8	16	SOUTH OF FIJI ISLANDS
12	04	39	31.7*	35.594	N	1.401	E	10	G	3.7		1.0	21	ALGERIA
12	06	02	02.3	30.353	N	138.272	E	452	D	5.4		0.8	177	SOUTH OF HONSHU, JAPAN

CMTS: (HRV) B061282A DATA: GDSN ; L.P. BODY WAVES: 12S, 29C, T= 45;
CENTROID LOCATION OT 6: 2: 4.8 0.8; LAT 30.47N 0.08; LON 138.10E 0.14; DEP 447.5 5.2; HALF-DURATION 1.8
MT: Scale 10**24 d-cm; MRR= 0.19 0.08; MTT= 0.01 0.11; MFF=-0.19 0.12; MRT= 0.65 0.14; MRF=-1.22 0.11; MTF= 0.24 0.11
PRINCIPAL AXES: (T) VAL= 1.33; PLG=50; AZM= 64; (N) VAL= 0.16; PLG= 2; AZM=332; (P) VAL= -1.49; PLG=39; AZM=240
BEST DOUBLE COUPLE: Mo= 1.4*10**24; NP1: STRIKE=311; DIP= 6; SLIP= 70; NP2: STRIKE=152; DIP=85; SLIP= 92

12	06	16	11.1*	3.397	S	177.396	E	33	N	5.0		0.6	37	GILBERT ISLANDS REGION
12	06	48	45.1*	37.069	N	27.961	E	10	G	3.9		1.2	9	TURKEY
12	06	58	28.1?	45.65	N	26.62	E	150	G			1.1	7	ROMANIA
12	07	08	42.2	36.940	N	27.938	E	10		4.5		1.1	57	DODECANESE ISLANDS. ML 4.2 (ATH).
12	07	19	41.0*	37.046	N	27.839	E	10	G	4.3		1.2	34	TURKEY. ML 4.0 (ATH).
12	08	47	22.2*	17.281	N	119.653	E	33	N	4.2		1.1	6	PHILIPPINE ISLANDS REGION
12	09	18	17.0*	10.298	N	126.141	E	49		4.3		1.5	21	PHILIPPINE ISLANDS REGION
12	09	59	12.6	43.194	N	0.428	W	10	G			1.2	24	PYRENEES. ML 4.3 (LDG).
12	10	37	58.3	36.902	N	27.841	E	10	G	4.5	3.8	1.2	37	DODECANESE ISLANDS. ML 4.0 (ATH).
12	10	40	33.1?	5.92	S	151.56	E	33	N	3.8		1.5	6	NEW BRITAIN REGION
12	11	06	56.4	50.441	N	7.974	E	10	G			1.5	11	GERMANY. ML 2.9 (LDG).
12	11	18	33.1?	54.64	N	165.32	E	33	N	4.4		0.5	11	KOMANDORSKY ISLANDS REGION
12	12	03	39.6	32.047	N	55.698	E	33	N	4.8	3.6	0.9	49	IRAN. ML 5.2 (MHI).
12	12	57	25.9*	15.443	S	73.398	W	103		4.5		1.0	24	SOUTHERN PERU
12	13	21	56.0?	3.52	S	177.38	E	33	N	4.5		0.5	19	GILBERT ISLANDS REGION
12	17	23	51.4	43.267	N	0.393	W	10	G			1.1	25	PYRENEES. ML 4.1 (LDG).
12	19	09	17.5?	17.85	S	174.55	W	461		4.4		1.0	9	TONGA ISLANDS
12	20	08	38.5?	17.01	S	179.43	W	454		4.0		1.6	11	FIJI ISLANDS REGION
12	23	48	18.2*	26.306	S	27.200	E	5	G			1.1	8	REPUBLIC OF SOUTH AFRICA
13	00	04	35.3&	37.017	N	121.492	W	8	G				11	CENTRAL CALIFORNIA. (BRK). ML 3.1 (BRK). Felt at Gilroy.
13	04	19	27.0*	38.310	N	23.663	E	10	G			0.4	6	GREECE. ML 3.2 (ATH).
13	04	25	24.9	40.547	N	23.711	E	10	G			0.8	18	GREECE. ML 3.5 (ATH).
13	04	56	47.1?	8.30	S	150.11	E	33	N	3.4		1.2	6	EAST PAPUA NEW GUINEA REGION
13	05	19	14.8*	39.958	N	24.313	E	21				0.8	13	AEGEAN SEA
13	05	32	12.6	5.481	N	126.864	E	48		4.9		1.3	34	MINDANAO, PHILIPPINE ISLANDS
13	06	05	50.4&	39.285	N	29.260	E	10	G			1.1	5	TURKEY
13	06	24	22.6*	1.192	S	136.435	E	33	N	4.0		1.1	12	WEST IRIAN REGION
13	06	38	12.7&	10.350	N	126.245	E	33	N			1.3	7	PHILIPPINE ISLANDS REGION
13	08	13	01.6*	16.184	N	98.399	W	33	N	4.1		1.5	19	NEAR COAST OF GUERRERO, MEXICO
13	10	02	54.6*	46.295	N	13.189	E	10	G			1.2	12	AUSTRIA. ML 3.2 (GRF), 2.5 (TRI). Felt in northeastern Italy.
13	10	07	12.6	18.254	S	167.085	E	203		4.8		0.9	47	VANUATU ISLANDS
13	10	17	53.7	23.723	N	142.319	E	79		4.9		1.2	75	VOLCANO ISLANDS REGION
13	10	32	40.9*	31.968	S	67.700	W	10	G			1.0	7	SAN JUAN PROVINCE, ARGENTINA
13	11	07	49.4*	16.256	N	98.440	W	6		4.1		1.2	28	NEAR COAST OF GUERRERO, MEXICO
13	11	22	52.9	6.855	S	154.925	E	33	N	5.2	4.6	1.1	65	SOLOMON ISLANDS
13	11	27	35.2	6.862	S	154.503	E	33	N	5.0		1.0	33	SOLOMON ISLANDS
13	12	12	18.7*	6.303	S	151.145	E	47		4.4		1.0	8	NEW BRITAIN REGION
13	14	03	09.0*	16.130	N	98.386	W	33	N	3.7		1.3	14	NEAR COAST OF GUERRERO, MEXICO
13	14	24	24.3*	56.926	N	136.025	W	33	N	3.8		1.4	13	OFF COAST OF SOUTHEASTERN ALASKA
13	16	51	07.3	21.929	S	176.250	W	121	D	5.2		0.9	57	FIJI ISLANDS REGION
13	17	54	59.3*	15.805	N	123.737	E	33	N			0.7	6	LUZON, PHILIPPINE ISLANDS
13	20	21	16.6	21.899	S	68.357	W	135		4.4		1.3	32	CHILE-BOLIVIA BORDER REGION
13	20	28	21.1*	16.176	N	98.372	W	34	D	3.9		1.4	13	NEAR COAST OF GUERRERO, MEXICO
13	20	35	20.1	53.325	N	160.375	E	55	D	4.8		0.8	58	NEAR EAST COAST OF KAMCHATKA
13	21	15	26.9*	51.689	N	15.946	E	10	G			1.2	22	POLAND. ML 4.1 (GRF).
13	22	43	39.9*	6.355	S	106.913	W	10	G	4.9	4.9	0.9	41	NORTHERN EASTER I. CORDILLERA
13	22	58	13.5	16.072	S	177.815	W	33	N	5.4	5.1	1.1	95	FIJI ISLANDS REGION
14	00	48	06.7*	6.094	S	151.098	E	44		4.3		1.2	6	NEW BRITAIN REGION
14	02	07	25.6	62.280	N	151.161	W	109				0.4	11	CENTRAL ALASKA
14	03	29	17.5*	31.699	S	72.348	W	33	N			0.9	7	OFF COAST OF CENTRAL CHILE
14	03	50	43.9	0.086	S	123.321	E	178		5.0		1.4	55	MINAHASSA PENINSULA
14	04	00	04.1&	27.877	N	112.149	E	33	N			0.6	5	EASTERN CHINA
14	04	46	26.2	6.366	S	147.023	E	28		4.7		1.2	25	EAST PAPUA NEW GUINEA REGION
14	13	10	07.2*	23.179	N	122.106	E	10	G			0.5	6	TAIWAN REGION

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14   14 43 59.0* 16.748 S  177.148 W   33 N  4.7 5.1    1.1   18  FIJI ISLANDS REGION
14   15 02 50.5? 15.56  S  177.54  W   33 N  5.1        1.7    8  FIJI ISLANDS REGION
14   15 33 48.6  30.128 N   57.661 E   33 N  4.7        1.0   47  IRAN
14   16 41 04.1   4.714 S  103.061 E   56 D  5.9        1.0  285  SOUTHERN SUMATERA. Felt (III) at Kepahiang.
   CMTS:  (HRV) B061482A   DATA:  GDSN          ; L.P. BODY WAVES:  14S, 40C, T= 45;
   CENTROID LOCATION   OT 16:41: 7.8 0.2;  LAT  5.38S 0.04;  LON 102.60E 0.03;  DEP  46.0 2.5;        HALF-DURATION  2.5
   MT: Scale 10**24 d-cm; MRR= 2.62 0.12; MTT=-0.97 0.18; MFF=-1.64 0.13; MRT= 2.44 0.19; MRF= 0.39 0.18; MTF= 2.19 0.14
   PRINCIPAL AXES:  (T) VAL=  4.18; PLG=56; AZM=334;  (N) VAL= -0.36; PLG=30; AZM=126;  (P) VAL= -3.83;  PLG=13; AZM=223
   BEST DOUBLE COUPLE:      Mo= 4.0*10**24;   NP1:  STRIKE=347; DIP=41; SLIP= 140;   NP2:  STRIKE=110; DIP=65; SLIP=  56
14   17 31 55.5* 16.192 S  177.716 W   33 N  4.9        0.9   24  FIJI ISLANDS REGION
14   18 02 45.9? 38.766 N   28.823 W   33              0.2   12  AZORES ISLANDS. Felt (III) on Faial and (II) on Pico.
14   18 28 55.2* 6.263  S  151.312 E   33 N  4.1        0.4    5  NEW BRITAIN REGION
14   18 49 36.7* 32.730 S   69.748 W  118    3.7        0.5    8  MENDOZA PROVINCE, ARGENTINA
14   19 29 34.5   8.089 N  121.473 E   27     5.0 4.4   1.1   57  MINDANAO, PHILIPPINE ISLANDS
14   19 32 34.8* 24.669 N  121.827 E   33 N              0.8    8  TAIWAN
14   19 52 59.9? 20.11  N  120.78  E   33 N              1.8    5  PHILIPPINE ISLANDS REGION
14   20 00 03.4* 2.105  N  100.422 W   10 G  4.6 4.5    1.1   30  EAST CENTRAL PACIFIC OCEAN
14   20 10 35.5* 24.023 N  120.464 E   10 G              0.4    6  TAIWAN
14   20 29 18.3& 38.778 N  122.912 W    6 G                    7  NORTHERN CALIFORNIA. <BRK>. ML 3.2 (BRK). Felt at Cobb.
14   20 56 36.4* 10.369 N   85.214 W   68     4.6        1.2   36  COSTA RICA
14   20 57 35.5* 38.413 N   19.959 E   33 N  3.8        1.2    9  IONIAN SEA. ML 3.6 (ATH).
14   21 31 11.9* 9.938  N  126.171 E   65     4.4        1.0   10  MINDANAO, PHILIPPINE ISLANDS
14   21 53 40.6* 33.854 S   71.374 W   33 N              0.5    7  NEAR COAST OF CENTRAL CHILE
14   22 42 30.2  16.602 N   98.047 W   40     4.8        0.9   69  NEAR COAST OF GUERRERO, MEXICO
14   22 54 51.3* 14.271 N   90.288 W   91     4.7        0.8   14  GUATEMALA
14   23 53 22.5& 36.517 N  121.057 W    4 G                    12  CENTRAL CALIFORNIA. <BRK>. ML 3.1 (BPK).
15   00 45 07.2* 25.992 S   27.715 E    5 G               0.7    5  REPUBLIC OF SOUTH AFRICA
15   01 20 35.2* 36.517 S   98.651 W   10 G  5.2 5.3    1.3   51  SOUTHERN PACIFIC OCEAN
15   03 08 43.6* 16.296 N   98.100 W   33 N  4.0        1.5   12  NEAR COAST OF GUERRERO, MEXICO
15   03 14 42.9  39.006 N  129.971 E  590     4.2        0.6   16  SEA OF JAPAN
15   03 55 56.5  17.541 S  174.316 W  120 D  4.9        1.0   58  TONGA ISLANDS
15   08 12 28.4  11.948 N  145.485 E   40     4.9        1.0   39  SOUTH OF MARIANA ISLANDS
15   08 47 53.3* 33.511 N  141.145 E   10     4.4        0.6    9  OFF EAST COAST OF HONSHU, JAPAN
15   10 20 08.4* 9.473  S  118.113 E   33 N  4.4        1.2    7  SUMBAWA ISLAND REGION
15   11 59 32.1& 32.567 N  118.900 W   24 G                   8  OFF COAST OF CALIFORNIA. <PAS-P>. ML 3.3 (PAS).
15   14 55 40.9  52.533 N  152.688 E  462     4.2        0.7   37  NORTHWEST OF KURIL ISLANDS
15   15 08 39.7? 40.384 N   28.890 E    9                  0.4    6  TURKEY
15   17 11 38.7  39.258 N   27.857 E   10 G               0.9   12  TURKEY
15   17 24 17.2  16.462 N   98.377 W   38     5.0        1.1   80  NEAR COAST OF GUERRERO, MEXICO. Felt (V) at Oaxaca and
                                                                   (III) at Mexico City.
15   18 26 58.7* 7.757  N  126.496 E  180     4.6        1.1   20  MINDANAO, PHILIPPINE ISLANDS
15   18 54 54.5* 4.296  S  144.005 E  136     4.4        0.8    8  NEAR N COAST OF PAPUA NEW GUINEA
15   19 57 38.3  51.319 N  178.469 W   49     5.0 4.0    0.9  117  ANDREANOF ISLANDS, ALEUTIAN IS. Felt (III) on Adak.
15   20 00 59.4* 51.620 N   16.278 E   10 G               0.7   15  POLAND. ML 3.7 (GRF).
15   20 51 54.1* 36.434 N  140.230 E   92     4.1        0.9    8  NEAR EAST COAST OF HONSHU, JAPAN
15   23 24 28.6  31.907 N   99.931 E   10 G  5.6 5.5    1.1  207  SICHUAN PROVINCE, CHINA. Ten people killed, 5 injured
                                                                   and damage in the Garze area.
   CMTS:  (HRV) B061582A   DATA:  GDSN          ; L.P. BODY WAVES:  15S, 40C, T= 45;
   CENTROID LOCATION   OT 23:24:40.8 0.3;  LAT 31.66N 0.04;  LON  99.70E 0.06;  DEP  54.7 3.3;        HALF-DURATION  2.5
   MT: Scale 10**24 d-cm; MRR=-2.00 0.19; MTT= 3.02 0.22; MFF=-1.03 0.20; MRT=-0.34 0.27; MRF=-0.32 0.21; MTF= 3.02 0.24
   PRINCIPAL AXES:  (T) VAL=  4.68; PLG= 5; AZM=152;  (N) VAL= -1.92; PLG=67; AZM= 51;  (P) VAL= -2.76;  PLG=22; AZM=244
   BEST DOUBLE COUPLE:      Mo= 3.7*10**24;   NP1:  STRIKE=286; DIP=71; SLIP= -13;   NP2:  STRIKE= 20; DIP=78; SLIP=-161
15   23 49 21.3& 33.550 N  116.667 W   12 G  4.5             61  SOUTHERN CALIFORNIA. <PAS-P>. ML 4.8 (PAS), 4.8 (BRK).
                                                                   Felt (V) at Anza, Coachella, Palm Springs, Pala, San
                                                                   Marcos and White Water. Felt in San Diego, Orange, Los
                                                                   Angeles, Imperial and San Bernardino counties.
15   23 56 05.1& 33.550 N  116.667 W   11 G                   9  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS). Felt.
16   00 03 55.7& 33.550 N  116.667 W   13 G                  10  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.1 (PAS). Felt.
16   00 14 52.3& 33.550 N  116.667 W   13 G                  11  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.5 (PAS). Felt.
16   00 38 19.5& 36.530 N  121.072 W    6 G                  13  CENTRAL CALIFORNIA. <BRK>. ML 3.1 (BRK).
16   02 24 48.4* 31.965 N  137.690 E  369     3.9        0.7   13  SOUTH OF HONSHU, JAPAN
16   03 16 06.2& 33.917 N  117.050 W   13 G                  11  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
16   04 06 00.7* 1.336  S  100.141 E   32     4.2        0.9    8  SOUTHERN SUMATERA
16   04 22 10.2* 58.617 N  155.695 W  157     4.3        1.3   23  ALASKA PENINSULA
16   05 10 51.0* 46.896 N  152.821 E   33 N  4.7        0.8   31  KURIL ISLANDS
16   06 02 18.1* 6.573  S  154.523 E   33 N  4.3        1.0    7  SOLOMON ISLANDS
16   06 31 49.8  38.322 N  133.571 E  441 D  4.8        0.9  102  SEA OF JAPAN
16   08 20 44.4  40.632 S  178.011 E   33 N  5.1        1.1   21  OFF E. COAST OF N. ISLAND, N.Z.
16   09 11 48.7   5.384 S  145.671 E   33 N  3.7        0.9   10  EAST PAPUA NEW GUINEA REGION
16   09 24 37.6? 19.75  S  178.56  W  400     4.1        1.3   21  FIJI ISLANDS REGION
16   09 41 42.0* 6.253  S  151.413 E   33 N  4.8        1.2    9  NEW BRITAIN REGION
16   09 43 49.6   5.399 S  145.836 E   36                 1.2   10  EAST PAPUA NEW GUINEA REGION
16   11 09 34.2* 31.814 S  177.454 W   33 N  5.0        1.3   12  KERMADEC ISLANDS REGION
16   11 20 18.4& 33.550 N  116.667 W   12 G                   11  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.2 (PAS). Felt at El
                                                                   Centro.
16   11 43 30.0& 46.970 N   66.990 W    5 G  4.7             58  NEW BRUNSWICK. <OTT>. mbLg 4.6 (OTT). Felt (IV) at
                                                                   Bridgewater, Easton, Fort Fairfield, Monticello, St.
                                                                   Francis and Stockholm, Maine. Also felt in other parts
                                                                   of northern Maine and throughout much of central and
                                                                   southern New Brunswick.
16   13 57 37.4* 17.687 N  101.679 W   63     4.3        1.0   20  NEAR COAST OF GUERRERO, MEXICO
16   14 00 00.8& 37.114 N  116.017 W    0 G                   21  SOUTHERN NEVADA. <DOE>. ML 4.3 (BRK). 37° 06' 51.22"
                                                                   N., 116° 00' 59.68" W., Surface Elev. 1338 m., Depth of
                                                                   Burial 289 m., Shot Time 140000.849, "KESTI", Nevada
                                                                   Test Site (Dept. of Energy).
16   17 57 24.5* 23.274 S   26.024 E   33 N               1.2    7  BOTSWANA REPUBLIC
16   20 52 33.1  34.981 N   24.256 E   39     4.1 3.5    1.4   55  CRETE. ML 4.1 (ATH).
16   21 45 32.9  26.188 S   28.199 E   22                 1.3   13  REPUBLIC OF SOUTH AFRICA
16   22 21 48.2* 15.800 S  167.795 E  155     4.3        1.4   19  VANUATU ISLANDS
17   03 45 14.2* 22.790 S  171.617 E   73     4.5        1.4   13  LOYALTY ISLANDS REGION
17   04 18 50.6* 26.131 S   27.767 E   21                 0.8   10  REPUBLIC OF SOUTH AFRICA
17   06 39 04.0* 23.906 N  121.933 E   33 N               0.8    6  TAIWAN
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17   08 02 38.66 41.521 N   72.440 W    1 G                                  11  SOUTHERN NEW ENGLAND. <WES>. mbLg 2.2 (WES). Felt at
                                                                                 Moodus, Connecticut.
17   08 33 45.8  50.703 N   14.723 E   10 G              0.7    7  CZECHOSLOVAKIA. ML 3.3 (GRF).
17   09 30 41.8* 49.915 N   18.470 E   10 G              0.6    7  CZECHOSLOVAKIA. ML 3.8 (GRF).
17   11 46 04.8  15.325 S  173.446 W   65 D  5.3         1.0   93  TONGA ISLANDS
   CMTS:  (HRV) B061782A   DATA:  GDSN              ; L.P. BODY WAVES:  12S, 32C, T= 45;
   CENTROID LOCATION    OT 11:46:10.8 0.9;  LAT 15.16S 0.12;  LON 173.67W 0.11;  DEP  49.6 10.8;          HALF-DURATION  1.2
   MT: Scale 10**23 d-cm; MRR= 1.79 0.51; MTT= 0.27 0.76; MFF=-2.06 0.59; MRT=-5.29 0.98; MRF= 1.42 0.79; MTF= 3.60 0.66
   PRINCIPAL AXES:  (T) VAL=  6.60; PLG=45; AZM=166;  (N) VAL=  0.46; PLG=31; AZM=294;  (P) VAL= -7.05;  PLG=29; AZM= 43
   BEST DOUBLE COUPLE:       Mo= 6.8*10**23;    NP1:  STRIKE=183; DIP=33; SLIP= 163;    NP2:  STRIKE=288; DIP=81; SLIP=  58
17   12 28 01.1* 2.315 S  152.076 E   33 N  4.3         1.2   11  NEW IRELAND REGION
17   14 03 10.3* 2.976 N   95.999 E   33 N  3.9         0.4    5  OFF W COAST OF NORTHERN SUMATERA
17   14 14 20.5& 41.518 N   72.441 W    1 G                       5  SOUTHERN NEW ENGLAND. <WES>. mbLg 2.2 (WES). Felt at
                                                                     Moodus, Connecticut.
17   14 14 35.96 41.508 N   72.377 W    2 G                       6  SOUTHERN NEW ENGLAND. <WES>. mbLg 3.0 (WES). Felt (III)
                                                                     at Moodus, Colchester, Cobalt, East Hampton, Ameton,
                                                                     Higganum and Hartford, Connecticut. Also felt at
                                                                     Glastonbury and Hebron, Connecticut.
17   15 29 24.46 41.508 N   72.437 W    1 G                       5  SOUTHERN NEW ENGLAND. <WES>. mbLg 2.4 (WES). Felt at
                                                                     Moodus, Connecticut.
17   15 40 12.4* 36.568 S   97.241 W   10 G  4.5          0.9   15  WEST CHILE RISE
17   18 48 25.8* 30.350 S   69.236 W   85                  0.2    6  CHILE-ARGENTINA BORDER REGION
17   19 03 15.2  38.460 N  143.028 E   24 D  5.0 4.7       1.2   87  OFF EAST COAST OF HONSHU, JAPAN
17   19 48 08.9  39.145 N   24.426 E    9     3.7          1.1   25  AEGEAN SEA. ML 3.7 (ATH).
17   20 01 20.1  22.582 S  171.741 E   50     5.1 5.0      1.1   72  LOYALTY ISLANDS REGION
17   20 16 21.1  22.759 S  171.730 E   68     5.0          1.1   33  LOYALTY ISLANDS REGION
17   22 12 44.5  39.153 N   24.515 E   10 G                 0.5   16  AEGEAN SEA. ML 3.1 (ATH).
17   23 41 34.6? 10.34  N   69.81  W   33 N                 1.7    5  VENEZUELA. Felt at El Tocuyo.
18   00 07 24.9  39.166 N   24.512 E   10 G  3.8          0.6   20  AEGEAN SEA. ML 3.2 (ATH).
18   00 09 11.0* 37.148 S  177.233 E  248     4.3          0.1    7  OFF E. COAST OF N. ISLAND, N.Z.
18   03 04 05.5  34.023 S   58.370 E   10 G  5.5          1.0   96  SOUTH INDIAN OCEAN
18   04 46 25.6  17.297 S  174.460 W  124 D  4.9          0.7   33  TONGA ISLANDS
18   05 00 46.2  62.208 N  149.738 W   72                  0.7   22  CENTRAL ALASKA
18   05 28 31.8  40.283 N   25.273 E   10 G                 1.2   19  AEGEAN SEA
18   05 40 01.4* 32.669 S   71.570 W   33 N                 0.5    5  NEAR COAST OF CENTRAL CHILE
18   07 10 11.2  22.614 S  171.836 E   24 D  5.6 5.4       1.1  142  LOYALTY ISLANDS REGION
   CMTS:  (HRV) B061882A   DATA:  GDSN              ; L.P. BODY WAVES:  15S, 38C, T= 45;
   CENTROID LOCATION    OT  7:10:15.3 0.3;  LAT 22.95S 0.04;  LON 171.89E 0.04;  DEP  10.1 FIX;          HALF-DURATION  2.6
   MT: Scale 10**24 d-cm; MRR= 4.86 0.14; MTT=-5.59 0.15; MFF= 0.73 0.19; MRT= 0.63 0.66; MRF=-0.51 0.45; MTF=-0.37 0.15
   PRINCIPAL AXES:  (T) VAL=  4.97; PLG=82; AZM= 63;  (N) VAL=  0.68; PLG= 7; AZM=267;  (P) VAL= -5.64;  PLG= 3; AZM=177
   BEST DOUBLE COUPLE:       Mo= 5.3*10**24;    NP1:  STRIKE=259; DIP=42; SLIP=  79;    NP2:  STRIKE= 94; DIP=49; SLIP= 100
18   09 40 35.1  45.793 N   26.795 E  117     3.8          0.6   18  ROMANIA
18   12 11 11.8* 3.328 S  177.407 E   27 D  4.9 5.3       0.7   30  GILBERT ISLANDS REGION
18   13 32 51.5* 59.975 S   18.494 W   10 G  5.3          1.2   14  SOUTHWESTERN ATLANTIC OCEAN
18   14 08 13.8  59.487 N  152.331 W   71                  1.1   29  SOUTHERN ALASKA. Felt (IV) at Homer.
18   14 09 16.0  22.613 S  171.879 E   33 N  4.9          1.3   32  LOYALTY ISLANDS REGION
18   14 36 20.9& 32.083 N  118.783 W    6 G                       5  OFF COAST OF CALIFORNIA. <PAS-F>. ML 3.1 (PAS).
18   15 37 13.0  20.571 S  177.899 W  518     4.9          0.8   34  FIJI ISLANDS REGION
18   15 41 53.1* 23.895 N  122.286 E   33 N                 0.8    9  TAIWAN REGION
18   17 01 04.8* 22.068 S  179.766 W  597     4.6          1.0   19  SOUTH OF FIJI ISLANDS
18   18 18 38.2  22.395 S   68.812 W  121 D  4.9          1.3   68  NORTHERN CHILE
18   18 58 36.2* 49.973 N  159.082 E   33 N  4.5          1.0   13  KURIL ISLANDS REGION
18   19 46 30.6? 26.92  S   26.71  E    5 G                 1.5    6  REPUBLIC OF SOUTH AFRICA
19   00 19 14.0* 33.461 S  178.295 W   33 N  5.0 4.6       1.3   15  SOUTH OF KERMADEC ISLANDS
19   01 43 42.3* 45.567 N   27.758 E   10 G                 0.4    7  ROMANIA
19   02 00 56.3* 3.935 S  128.997 E  100     4.4          0.9    7  CERAM
19   04 09 47.5  14.993 S  167.834 E   33 N  4.7          0.8   32  VANUATU ISLANDS
19   04 56 37.4  22.974 N  121.354 E   35     4.1          1.3   17  TAIWAN REGION
19   05 19 26.8  24.109 S   66.737 W  219     4.8          1.2   18  SALTA PROVINCE, ARGENTINA
19   06 21 58.0  13.313 N   89.339 W   82     6.2          1.2  367  EL SALVADOR. mb 7.0 (PAS). At least 40 people killed,
                                                                     many injured, and thousands of people left homeless in
                                                                     El Salvador. Extensive damage (VII) and landslides
                                                                     south of San Salvador including some damage in San
                                                                     Salvador. Three people killed, 40 injured, and
                                                                     considerable damage in southeastern Guatemala. Felt in
                                                                     Costa Rica, Honduras, and Nicaragua.
   FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=315;  DIP=85;  SLIP= 240.   NP2:  STRIKE=216;  DIP=30;  SLIP= 350
   PRINCIPAL AXES:   (T)  PLG=33;  AZM= 70.   (P)  PLG=42;  AZM=197
                                                                     Moderately well controlled normal fault type mechanism
                                                                     with a small amount of left-lateral strike-slip
                                                                     component. NP1 designated as the fault plane.
   CMTS:  (HRV) C061982A   DATA:  GDSN              ; L.P. BODY WAVES:  15S, 44C, T= 45;   MANTLE WAVES:  12S, 33C, T=135
   CENTROID LOCATION    OT  6:22: 2.3 0.2;  LAT 12.65N 0.02;  LON  88.97W 0.02;  DEP  51.9 0.9;          HALF-DURATION 13.0
   MT: Scale 10**26 d-cm; MRR=-7.45 0.12; MTT= 7.15 0.11; MFF= 0.30 0.10; MRT= 5.77 0.21; MRF=-3.72 0.18; MTF=-3.20 0.10
   PRINCIPAL AXES:  (T) VAL= 10.90; PLG=20; AZM= 74;  (N) VAL= -0.81; PLG= 7; AZM=116;  (P) VAL=-10.09;  PLG=69; AZM=224
   BEST DOUBLE COUPLE:       Mo= 1.0*10**27;    NP1:  STRIKE=102; DIP=25; SLIP=-106;    NP2:  STRIKE=299; DIP=66; SLIP= -83
19   09 07 31.5  40.223 N   27.102 E   10 G              1.3    8  TURKEY
19   09 57 56.5? 13.06  N   90.00  W   80 G              0.8   11  NEAR COAST OF GUATEMALA
19   10 17 33.6& 36.530 N  121.073 W    9 G                      22  CENTRAL CALIFORNIA. <BRK>. ML 4.0 (BRK). Felt at Jolon,
                                                                     King City and Monterey.
19   10 31 58.3* 35.809 N  140.328 E   68     4.1          0.9    8  NEAR EAST COAST OF HONSHU, JAPAN
19   11 13 29.0   7.293 S  126.603 E  355     5.0          1.2   57  BANDA SEA
19   11 55 36.9  63.018 N  151.079 W  124                  0.8   13  CENTRAL ALASKA
19   13 09 57.7* 16.830 N  101.633 W   33 N  3.5          0.7    6  NEAR COAST OF GUERRERO, MEXICO
19   14 48 00.1* 23.910 N  122.345 E   38     3.8          0.9   10  TAIWAN REGION
19   15 11 57.7* 4.045 S  126.325 E   33 N  4.3          0.2    8  BANDA SEA
19   15 22 45.3   4.477 S  145.069 E   34 D  5.3 5.3       1.0   71  NEAR N COAST OF PAPUA NEW GUINEA
19   16 22 59.3  33.846 S   72.126 W   33 N  4.4          1.3   13  OFF COAST OF CENTRAL CHILE. Felt (III) at Santiago and
                                                                     Valparaiso.
19   17 22 30.7  39.088 N   25.241 E   10 G              1.1   20  AEGEAN SEA. ML 3.3 (ATH).
19   18 49 02.5  21.070 S  178.777 W  611     4.9          1.0   88  FIJI ISLANDS REGION
19   20 25 47.2  22.946 N  121.526 E   25 D  5.1          1.0  103  TAIWAN REGION
19   20 38 26.8  22.938 N  121.440 E   22     4.7          1.2   42  TAIWAN REGION
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19   22 46 08.8  14.719 S  167.876 E   33 N  5.6 4.9   0.9  116  VANUATU ISLANDS
   CMTS:  (HRV) B061982B   DATA:  GDSN              ;  L.P. BODY WAVES:  10S, 28C, T= 45;
   CENTROID LOCATION    OT 22:46:12.5 0.5;  LAT 14.56S 0.10;  LON 167.55E 0.08;  DEP  10.7 FIX;        HALF-DURATION  1.0
   MT: Scale 10**24 d-cm; MRR= 0.87 0.06; MTT= 0.13 0.09; MFF=-1.00 0.07; MRT= 0.07 0.18; MRF= 0.65 0.31; MTF= 0.32 0.06
   PRINCIPAL AXES:  (T) VAL=  1.10; PLG=69; AZM=299;  (N) VAL=  0.16; PLG=13; AZM=172;  (P) VAL= -1.26;  PLG=16; AZM= 78
   BEST DOUBLE COUPLE:       Mo= 1.2*10**24;    NP1:  STRIKE=149; DIP=31; SLIP=  64;   NP2:  STRIKE=359; DIP=62; SLIP= 105
19   22 52 26.7* 39.151 N   24.421 E   10 G              0.7    9  AEGEAN SEA. ML 2.8 (ATH).
19   23 36 28.6* 51.532 N   15.986 E   10 G              0.2   13  POLAND. ML 3.7 (GRF).
20   00 12 31.8* 40.720 N   20.926 E   10 G  3.3         0.7   16  GREECE-ALBANIA BORDER REGION
20   06 51 06.0? 30.98  N   41.77  W   10 G  4.7         0.3    5  NORTH ATLANTIC RIDGE
20   07 29 19.2* 16.965 N   98.250 W   56    3.9         1.2   16  NEAR COAST OF GUERRERO, MEXICO
20   07 29 59.7  30.792 N   41.751 W   10 G  4.8 5.0      0.8  102  NORTH ATLANTIC RIDGE
20   07 41 52.0  24.131 S   66.885 W  227    3.9         1.1   11  SALTA PROVINCE, ARGENTINA
20   08 29 15.3* 30.700 N   41.733 W   10 G  5.1 5.3      0.8  137  NORTH ATLANTIC RIDGE
20   12 06 53.8   4.444 S  145.115 E   33 N  4.1         0.6    7  NEAR N COAST OF PAPUA NEW GUINEA
20   12 29 48.1  53.013 N   35.181 W   10 G  4.6 3.5      1.0   49  NORTH ATLANTIC OCEAN
20   12 33 32.7* 32.516 S   71.868 W  116                 1.4    9  NEAR COAST OF CENTRAL CHILE
20   12 35 36.5* 53.093 N   35.324 W   10 G  4.4         1.2   24  NORTH ATLANTIC OCEAN
20   13 57 14.2  40.716 N   25.003 E   10 G  4.1         1.3   49  AEGEAN SEA. ML 4.1 (ATH).
20   14 29 05.6* 40.318 N   25.559 E   10 G              1.0    7  AEGEAN SEA
20   14 34 20.3* 40.314 N   25.667 E   10 G              1.1    6  AEGEAN SEA
20   15 29 21.1  26.497 N   90.206 E   33 N  4.5         1.1   18  EASTERN INDIA
20   17 26 28.5* 40.299 N   25.655 E   10 G              1.0    6  AEGEAN SEA
20   19 32 10.1   7.879 S  112.287 E  174    4.6         1.4   28  JAVA
20   19 41 44.6   1.653 S  120.431 E   33 N  4.8         1.2   33  SULAWESI
20   21 28 40.9   4.104 N   82.577 W   10 G  4.9         1.1   36  SOUTH OF PANAMA
20   21 45 58.6? 33.25  N   46.06  E   33 N  4.4         1.2   12  IRAN-IRAQ BORDER REGION
20   23 52 28.5  20.601 S   41.007 E   10 G  5.4 4.2      0.8  122  MOZAMBIQUE CHANNEL
20   23 55 47.9* 8.797 S  121.936 E  159    4.5         1.0   10  FLORES ISLAND REGION
21   00 04 41.2   5.166 N   94.338 E   59    4.6         0.7   23  NORTHERN SUMATERA
21   00 23 47.9* 34.598 N  136.909 E   33 N  4.5 4.1      1.1   17  SOUTHERN HONSHU, JAPAN. Felt (III JMA) at Yokkaichi,
                                                                   (II JMA) at Gifu and Nagoya, (I JMA) at Shizuoka and
                                                                   Kyoto.
21   04 18 37.0  38.585 N   14.664 E  298    4.3         0.9   71  SICILY
21   04 59 30.2* 60.959 N  151.472 W   94    3.9         0.5    7  KENAI PENINSULA, ALASKA
21   05 09 54.0* 17.286 N  122.588 E   33 N  4.4         1.2   10  LUZON, PHILIPPINE ISLANDS
21   05 30 28.7  13.060 N   89.328 W   61    4.9         1.1   90  EL SALVADOR. Felt (IV) at San Salvador.
21   06 17 33.9*  7.259 S  147.545 E   33 N  3.7         0.5    5  EAST PAPUA NEW GUINEA REGION
21   06 43 38.46 41.158 N  121.943 W    5 G  4.1              30  NORTHERN CALIFORNIA. <BRK>. ML 4.2 (BRK). Felt (IV) at
                                                                   McCloud and Dunsmuir. Also felt at Castella, Mount
                                                                   Shasta, Montgomery Creek, Oak Run and Weed.
21   08 58 23.8* 41.124 N  121.928 W    5 G              1.0    7  NORTHERN CALIFORNIA. ML 3.4 (BRK).
21   10 26 33.6*  6.074 N  126.417 E   33 N  3.8         1.0    8  MINDANAO, PHILIPPINE ISLANDS
21   11 30 43.9*  0.679 N  126.245 E   59    4.8         1.3   17  MOLUCCA PASSAGE
21   13 08 03.0  42.918 N  138.349 E  231    4.2         0.5   25  EASTERN SEA OF JAPAN
21   13 30 25.0? 20.83  S  172.68  W   33 N  4.6         0.2    7  TONGA ISLANDS REGION
21   15 57 01.6  33.855 N  135.395 E   53 D  5.0         0.8   54  NEAR S. COAST OF SOUTHERN HONSHU
21   16 28 38.1? 40.215 N   23.992 E   10 G              0.5    6  GREECE
21   17 47 32.4  36.285 N   70.360 E  219    4.4         0.7   17  HINDU KUSH REGION
21   19 15 56.3  10.783 S  164.174 E   48    5.6 5.2      0.9  101  SANTA CRUZ ISLANDS REGION
   CMTS:  (HRV) B062182A   DATA:  GDSN              ;  L.P. BODY WAVES:  12S, 33C, T= 45;
   CENTROID LOCATION    OT 19:16: 0.9 0.4;  LAT 10.04S 0.05;  LON 164.25E 0.06;  DEP  40.5 5.4;        HALF-DURATION  2.2
   MT: Scale 10**24 d-cm; MRR=-0.41 0.06; MTT=-0.48 0.10; MFF= 0.89 0.10; MRT= 0.44 0.13; MRF=-1.65 0.20; MTF= 1.06 0.08
   PRINCIPAL AXES:  (T) VAL=  2.18; PLG=29; AZM=107;  (N) VAL= -0.05; PLG=35; AZM=354;  (P) VAL= -2.13;  PLG=41; AZM=226
   BEST DOUBLE COUPLE:       Mo= 2.1*10**24;    NP1:  STRIKE=249; DIP=36; SLIP= -12;   NP2:  STRIKE=349; DIP=83; SLIP=-126
21   19 49 18.2? 13.27  N   89.33  W   92    5.1         0.6    8  EL SALVADOR. Felt (III) at San Salvador.
21   23 37 47.1* 18.760 S  174.835 W   33 N  4.8         0.8   13  TONGA ISLANDS
22   00 22 03.5* 23.779 N  122.890 E   69                0.2    8  TAIWAN REGION
22   01 05 27.7& 37.553 N  118.914 W    5 G                   10  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.4 (BRK).
22   01 42 21.3& 40.340 N  124.902 W    5 G                   10  NEAR COAST OF NORTHERN CALIF. <BRK>. ML 3.2 (BRK).
22   03 04 29.4  37.160 N   21.273 E   40 D  5.1 5.4      1.3  237  SOUTHERN GREECE. Felt in southern Peloponnesus.
22   04 18 40.5   7.339 S  126.043 E  450 G  6.3         1.1  312  BANDA SEA. mb 6.8 (PAS). Felt on Timor and Bali. Also
                                                                   felt in the Moluccas.
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=337;  DIP=44;  SLIP= 209.   NP2:  STRIKE=225;  DIP=70;  SLIP= 310
        PRINCIPAL AXES:   (T)  PLG=16;  AZM=287.   (P)  PLG=48;  AZM=179
                                                                   Moderately well controlled normal fault type mechanism
                                                                   with a component of strike-slip. NP to be designated as
                                                                   the fault plane not determined.
   CMTS:  (HRV) C062282A   DATA:  GDSN              ;  L.P. BODY WAVES:  18S, 53C, T= 45;   MANTLE WAVES:  15S, 44C, T=135
   CENTROID LOCATION    OT  4:18:55.3 0.1;  LAT  7.28S 0.01;  LON 125.99E 0.01;  DEP 473.4 1.0;        HALF-DURATION 15.5
   MT: Scale 10**27 d-cm; MRR=-1.11 0.01; MTT=-0.21 0.02; MFF= 1.32 0.02; MRT= 0.93 0.02; MRF= 0.31 0.02; MTF= 0.81 0.02
   PRINCIPAL AXES:  (T) VAL=  1.83; PLG=13; AZM=298;  (N) VAL= -0.12; PLG=30; AZM= 36;  (P) VAL= -1.71;  PLG=56; AZM=187
   BEST DOUBLE COUPLE:       Mo= 1.8*10**27;    NP1:  STRIKE=354; DIP=41; SLIP=-140;   NP2:  STRIKE=232; DIP=65; SLIP= -56
22   04 19 37.4& 34.883 N  120.367 W    6 G                    3  SOUTHERN CALIFORNIA. <PAS-P>. ML 2.9 (PAS). Felt at
                                                                   Santa Maria.
22   05 54 44.9  40.323 N   25.342 E   10 G              0.8   25  AEGEAN SEA. ML 3.6 (ATH).
22   06 52 58.5* 47.519 N  154.359 E   33 N  4.5         1.1   16  KURIL ISLANDS
22   07 05 27.1  53.928 N  166.643 W   90    4.8         1.0  114  FOX ISLANDS, ALEUTIAN ISLANDS. Felt (IV) at Unalaska.
22   07 27 35.4   3.385 S  146.051 E   33 N  5.1         1.5   14  BISMARCK SEA
22   08 27 08.7* 31.653 S   67.865 W   10 G              1.0    6  SAN JUAN PROVINCE, ARGENTINA
22   09 29 25.0? 28.47  S   66.23  W  203                1.4    7  CATAMARCA PROVINCE, ARGENTINA. Felt in southern
                                                                   Catamarca province.
22   09 44 46.1* 36.974 N   21.225 E   33 N  3.1         1.1    9  SOUTHERN GREECE. ML 3.6 (ATH).
22   11 23 51.4  63.235 N  148.020 W   89                0.5   17  CENTRAL ALASKA
22   14 21 14.7   1.769 N  124.732 E  237    4.8         1.1   44  MINAHASSA PENINSULA
22   14 55 55.7   2.856 S  129.405 E   27 D  5.4 5.4      1.2  102  CERAM
22   15 21 05.0   2.959 S  129.533 E   33 N  4.9         1.4   20  CERAM
22   19 32 01.2* 38.329 N   23.632 E   10 G  3.7         0.3    6  GREECE. ML 3.2 (ATH).
22   19 50 21.5  42.926 N    1.887 W   10 G  4.4         1.3   71  PYRENEES
22   22 20 19.7* 43.030 N    1.800 W   10 G              0.8    6  PYRENEES
22   22 23 41.7* 38.544 N   25.663 E   10 G              0.7   10  AEGEAN SEA. ML 2.9 (ATH).
22   22 31 10.2& 39.269 N   29.070 E   10 G              0.7    6  TURKEY
22   23 38 10.0  40.352 N   25.337 E   11    4.1 3.4      1.0   46  AEGEAN SEA. ML 3.8 (ATH).
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22   23 45 12.2* 40.350 N   25.349 E   10 G                0.9   17  AEGEAN SEA
23   01 22 20.6* 43.188 N    1.478 W   10 G                1.1   16  PYRENEES
23   01 51 54.8  29.062 N  138.769 E  476     5.3          0.9  187  SOUTH OF HONSHU, JAPAN
23   02 11 47.0  63.324 N  151.755 W   33 N                0.6   12  CENTRAL ALASKA
23   03 45 34.0* 40.282 N   25.578 E   10 G                1.6    5  AEGEAN SEA
23   06 15 34.9* 43.245 N    1.271 W   10 G                1.1   11  PYRENEES
23   08 01 01.4* 24.742 N  121.846 E   10 G                0.2    7  TAIWAN
23   08 51 38.9* 14.009 N   88.577 W   33 N  4.7 3.4       0.6    7  HONDURAS. Felt (III) at San Salvador, El Salvador.
23   09 02 14.8* 29.797 S  178.735 W  226     4.7          1.2   18  KERMADEC ISLANDS
23   09 51 29.6? 51.93  N  173.51  W   33 N  4.8           1.1   20  ANDREANOF ISLANDS, ALEUTIAN IS.
23   09 58 02.7  13.915 N  120.751 E  215     4.6          1.2   37  MINDORO, PHILIPPINE ISLANDS
23   10 54 40.7  38.888 N   24.820 E   10 G                0.7   16  AEGEAN SEA. ML 3.6 (ATH).
23   13 11 31.3* 0.501  N  125.563 E   81     4.8          1.5   11  MOLUCCA PASSAGE
23   13 24 09.3* 20.750 S  178.885 W  623     4.8          1.0   57  FIJI ISLANDS REGION
23   15 13 03.2   4.630 S  149.689 E  599     4.4          1.1   26  BISMARCK SEA
23   17 51 36.2  45.516 N   26.934 E   22                  1.2    8  ROMANIA
23   18 55 56.5% 40.442 N   28.829 E   10 G                1.2    6  TURKEY
23   22 14 38.9  42.824 N    1.749 W   10 G                1.1   22  PYRENEES
23   23 23 34.4   4.067 N  124.532 E  344     5.6          1.1  218  CELEBES SEA
   CMTS:  (HRV) B062382A    DATA:  GDSN            ;  L.P. BODY WAVES:  12S, 34C, T= 45;
   CENTROID LOCATION    OT 23:23:36.7 0.5;  LAT  3.91N 0.04;  LON 124.61E 0.05;  DEP 325.2 2.7;          HALF-DURATION  2.2
   MT: Scale 10**24 d-cm; MRR=-2.43 0.11; MTT= 0.96 0.13; MFF= 1.47 0.13; MRT=-0.88 0.15; MRF=-0.57 0.14; MTF=-0.45 0.11
   PRINCIPAL AXES:  (T) VAL=  1.76; PLG= 1; AZM= 61;  (N) VAL=  1.01; PLG=17; AZM=151;  (P) VAL= -2.75;  PLG=73; AZM=328
   BEST DOUBLE COUPLE:       Mo= 2.2*10**24;    NP1:  STRIKE=134; DIP=47; SLIP=-114;   NP2:  STRIKE=347; DIP=48; SLIP= -67
24   02 12 44.0% 40.728 N   27.386 E   10 G                0.3    5  TURKEY
24   03 05 26.0  34.642 N   69.808 E   33 N  5.0 4.1       1.2   79  AFGHANISTAN. Felt in the Kabul area.
24   03 18 04.7* 23.765 N  122.176 E    9                  1.0    7  TAIWAN REGION
24   04 57 58.7? 64.78  N  147.16  W   15 G                1.6    6  CENTRAL ALASKA. ML 3.0 (PNR). Felt (IV) at Fairbanks.
24   05 26 53.2? 64.76  N  147.44  W   15 G                0.2    7  CENTRAL ALASKA. ML 2.3 (PNR). Felt (III) at Fairbanks.
24   07 15 49.3* 32.478 N   36.260 W   10 G  4.6 4.7       0.7   17  NORTH ATLANTIC OCEAN
24   07 31 35.2* 52.602 N   35.436 W   10 G  4.5 4.5       1.1   14  NORTH ATLANTIC OCEAN
24   09 16 44.3  44.009 S   15.978 W   10 G  5.6 5.3       1.1   78  SOUTH ATLANTIC RIDGE
   CMTS:  (HRV) B062462A    DATA:  GDSN            ;  L.P. BODY WAVES:  14S, 35C, T= 45;
   CENTROID LOCATION    OT  9:16:48.0 0.3;  LAT 43.88S 0.06;  LON  15.76W 0.05;  DEP  10.0 FIX;          HALF-DURATION  2.2
   MT: Scale 10**24 d-cm; MRR=-3.44 0.13; MTT=-0.07 0.16; MFF= 3.52 0.14; MRT=-1.44 0.37; MRF= 1.98 0.60; MTF=-0.05 0.13
   PRINCIPAL AXES:  (T) VAL=  4.09; PLG=16; AZM=264;  (N) VAL=  0.32; PLG=15; AZM=169;  (P) VAL= -4.41;  PLG=68; AZM= 37
   BEST DOUBLE COUPLE:       Mo= 4.3*10**24;    NP1:  STRIKE= 15; DIP=32; SLIP= -60;   NP2:  STRIKE=161; DIP=63; SLIP=-107
24   10 08 00.9& 37.473 N  118.852 W   11 G                 10  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.8 (SRK).
24   13 34 26.4* 18.695 N   64.689 W   33 N          0.4    5  VIRGIN ISLANDS
24   14 03 12.6* 51.956 N  170.918 W   41     4.7   0.8   26  FOX ISLANDS, ALEUTIAN ISLANDS
24   14 15 00.06 37.236 N  116.370 W    0 G  5.6 4.5        209  SOUTHERN NEVADA. <DOE>. ML 5.6 (BRK), 5.7 (PAS). 37°
                                                               14' 10.38" N., 116° 22' 12.63" W., Surface Elev. 2065
                                                               m., Depth of Burial 640 m., Shot Time 141500.090,
                                                               "NEBBIOLO", Nevada Test Site (Dept. of Energy).
24   15 36 31.4* 26.699 S   27.205 E    5 G                1.1    8  REPUBLIC OF SOUTH AFRICA
24   15 56 09.4* 14.186 N   88.985 W   33 N                1.1   11  HONDURAS. Felt (III) at San Salvador, El Salvador.
24   17 49 17.7  40.326 N   25.333 E   10 G                0.9   14  AEGEAN SEA
24   20 59 54.4? 4.28   S  148.99  E  172     3.9          0.3    5  BISMARCK SEA
24   23 33 59.1*  9.832 N   73.880 W   33 N  4.7           1.5    6  NORTHERN COLOMBIA. Felt at Barranquilla and Cartagena.
24   23 59 05.0? 17.79  N  103.87  W   33 N  4.1           1.2   10  NEAR COAST OF MICHOACAN, MEXICO
25   01 30 20.2*  5.948 S  148.550 E  121                  0.7    8  NEW BRITAIN REGION
25   01 35 58.3* 36.073 N   69.858 E  104     4.6          0.9   18  HINDU KUSH REGION
25   02 03 04.2  49.795 N   78.158 E    0 G  4.9           0.7   58  EASTERN KAZAKH SSR
25   03 58 23.7& 35.953 N  120.553 W    8 G  4.1 3.7         28  CENTRAL CALIFORNIA. <BRK>. ML 4.0 (BRK), 4.1 (PAS).
                                                               Felt (IV) at Coalinga and San Miguel. Felt (III) at
                                                               Atascadero, Bradley, Cambria, Paso Robles, Santa
                                                               Margarita and Templeton.
25   04 42 13.2* 22.656 N   93.599 E   33 N  4.3         1.6    7  BURMA-INDIA BORDER REGION
25   07 50 10.2* 41.718 N   22.621 E   10 G              0.9   12  YUGOSLAVIA
25   09 59 21.0   7.890 S  128.637 E   33 N              1.6   13  BANDA SEA
25   10 23 51.2   6.356 S  103.437 E   35     5.3 5.8   1.2  121  SOUTHWEST OF SUMATERA
   CMTS:  (HRV) B062582A    DATA:  GDSN            ;  L.P. BODY WAVES:  15S, 40C, T= 45;
   CENTROID LOCATION    OT 10:23:51.9 0.3;  LAT  7.21S 0.04;  LON 103.05E 0.04;  DEP  37.9 4.3;          HALF-DURATION  2.5
   MT: Scale 10**24 d-cm; MRR= 0.57 0.13; MTT=-0.59 0.18; MFF= 0.02 0.17; MRT=-1.83 0.29; MRF= 2.14 0.30; MTF= 3.22 0.15
   PRINCIPAL AXES:  (T) VAL=  3.05; PLG=15; AZM=306;  (N) VAL=  1.89; PLG=58; AZM=189;  (P) VAL= -4.94;  PLG=27; AZM= 44
   BEST DOUBLE COUPLE:       Mo= 4.0*10**24;    NP1:  STRIKE= 82; DIP=60; SLIP=  -9;   NP2:  STRIKE=177; DIP=82; SLIP=-149
25   12 00 42.5* 36.872 N    3.366 W   30                1.4    8  STRAIT OF GIBRALTAR. Felt (III) at Berja and Motril,
                                                               Spain.
25   13 24 16.3? 16.87  N   95.73  W   33 N          0.9    7  OAXACA, MEXICO
25   14 03 52.5   3.993 S  141.646 E   57     4.7    1.4   22  PAPUA NEW GUINEA
25   15 29 12.2*  3.438 N  128.160 E  180     4.6    1.3    8  NORTH OF HALMAHERA
25   16 52 37.4  38.891 N   25.921 E   33     3.5 3.3  1.2   26  AEGEAN SEA. ML 3.9 (ATH).
25   17 15 25.8* 40.499 N   25.735 E   10 G              1.2    6  AEGEAN SEA
25   18 10 08.0* 27.789 S   26.498 E    5 G              1.2    5  REPUBLIC OF SOUTH AFRICA
25   19 11 56.6*  3.048 S  177.381 E   33 N  4.7         0.9   11  GILBERT ISLANDS REGION
25   21 42 43.5* 40.205 N   25.046 E   10 G              0.7    7  AEGEAN SEA
25   22 00 23.5*  1.717 N  100.863 W   10 G  4.6 4.1     1.1   10  EAST CENTRAL PACIFIC OCEAN
25   23 12 12.9  62.949 N  150.525 W  119                0.4   10  CENTRAL ALASKA
26   00 32 06.7* 31.698 S   67.785 W   10 G              0.8    7  SAN JUAN PROVINCE, ARGENTINA
26   01 23 56.6* 35.973 S   97.448 W   10 G  4.6 4.2     1.2   16  WEST CHILE RISE
26   02 03 17.7? 3.15   S  177.30  E   33 N  4.5         0.9   16  GILBERT ISLANDS REGION
26   02 20 04.2*  6.242 N  125.731 E  105     4.1        0.8   11  MINDANAO, PHILIPPINE ISLANDS
26   07 26 01.5*  7.573 S  129.986 E   33 N  5.0         1.1   15  BANDA SEA
26   08 45 38.7  26.388 S   27.374 E   15                1.1   15  REPUBLIC OF SOUTH AFRICA
26   09 34 50.4? 24.17  S   66.85  W  212     4.1        1.4    6  SALTA PROVINCE, ARGENTINA
26   13 57 23.7  50.519 N    7.700 E   10 G              1.0   23  GERMANY. ML 3.1 (BNS), 2.9 (GRF). Felt at Bad
                                                               Marienberg.
26   15 07 04.7* 50.459 N    7.847 E   10 G              1.1    8  GERMANY
26   19 47 36.9* 41.824 N   23.622 E   33 N              1.3    8  GREECE-BULGARIA BORDER REGION
26   21 09 06.6% 15.085 N   60.331 W   33 N              0.2    6  LEEWARD ISLANDS
26   21 15 10.4* 10.918 S  115.696 E   33 N  4.9         1.3   18  SOUTH OF BALI ISLAND
26   21 42 39.8? 40.05  N   25.40  E   10 G              0.2    7  AEGEAN SEA
26   22 04 07.3* 40.326 N   28.869 E   10 G              0.8    7  TURKEY
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27   01 10 48.5  16.845 N   85.874 W   10 G  4.7 3.8    1.0   33  CARIBBEAN SEA
27   03 33 10.4? 56.99  N  156.96  W   33 N              1.6    8  ALASKA PENINSULA. ML 3.2 (PMR).
27   04 58 30.0  26.380 S   27.309 E    5 G              1.2    7  REPUBLIC OF SOUTH AFRICA
27   05 20 02.1& 35.925 N  120.548 W   20 G                    15  CENTRAL CALIFORNIA. <BRK>. ML 3.4 (BRK), 3.6 (PAS).
                                                                   Felt.
27   07 07 22.7* 39.087 N   28.633 E   10 G              0.5    6  TURKEY
27   08 58 07.3* 12.943 N   89.725 W   33 N  4.5 3.6    1.5    8  OFF COAST OF CENTRAL AMERICA. Felt (III) at San
                                                                   Salvador, El Salvador.
27   10 15 37.0? 35.46  N   26.17  E  103     4.1        0.7   14  CRETE
27   10 32 53.6   5.527 S  147.046 E  200     5.0        1.0   22  EAST PAPUA NEW GUINEA REGION
27   11 21 33.2& 32.950 N  116.433 W    3 G                    11  CALIFORNIA-MEXICO BORDER REGION. <PAS-P>. ML 3.2 (PAS).
27   14 24 45.4* 5.749 S  146.034 E   33 N  3.6          1.0    6  EAST PAPUA NEW GUINEA REGION
27   15 24 31.5  30.543 N  132.324 E   38 D  4.9 4.8    1.1   47  SOUTHEAST OF SHIKOKU, JAPAN
27   16 17 13.4  55.486 S  160.161 E   10 G  5.9 6.1    1.2  141  MACQUARIE ISLANDS REGION. Ms 6.2 (PAS).
     CMTS:  (HRV) B062782A   DATA:  GDSN            ; L.P. BODY WAVES:  18S, 53C, T= 45;
     CENTROID LOCATION   OT 16:17:22.5 0.2;  LAT 55.40S 0.03;  LON 159.72E 0.04;  DEP  10.0 FIX;        HALF-DURATION  4.0
     MT: Scale 10**25 d-cm; MRR= 0.49 0.04; MTT= 1.55 0.05; MFF=-2.04 0.04; MRT=-0.63 0.11; MRF=-1.60 0.14; MTF= 0.26 0.04
     PRINCIPAL AXES:  (T) VAL=  2.10; PLG=35; AZM=161;  (N) VAL=  0.71; PLG=44; AZM= 29;  (P) VAL= -2.81;  PLG=26; AZM=271
     BEST DOUBLE COUPLE:      Mo= 2.5*10**25;   NP1:  STRIKE=309; DIP=45; SLIP=  8;   NP2:  STRIKE=214; DIP=85; SLIP= 134
27   17 39 02.7? 14.05  S  167.56  E  179     3.7        0.3    5  VANUATU ISLANDS
27   18 19 25.3* 15.180 S  173.485 W   33 N  5.2          1.0   41  TONGA ISLANDS
27   20 50 22.3* 14.835 S   76.351 W   33 N  4.4          1.5    8  NEAR COAST OF PERU
27   23 04 25.6* 14.292 N  125.513 E   33 N  5.0          1.4   29  PHILIPPINE ISLANDS REGION
28   01 19 47.7  28.462 S   66.443 W   32     5.0 4.2     1.2   34  CATAMARCA PROVINCE, ARGENTINA. Felt at Catamarca.
28   03 58 37.6   5.135 S  133.921 E   33 N  5.0 4.8    1.2   32  AROE ISLANDS REGION
28   06 16 40.1* 28.551 S   66.451 W   33 N              1.6    5  CATAMARCA PROVINCE, ARGENTINA. Felt at Catamarca.
28   07 32 43.3& 31.367 N  115.467 W    6 G                     5  BAJA CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
28   09 20 15.1* 17.687 N   62.152 W   79              0.5    9  LEEWARD ISLANDS
28   09 29 51.0  37.178 N   27.921 E    9     4.4 4.4    1.4   32  TURKEY. ML 4.3 (ATH).
28   09 52 39.2* 38.410 N   23.702 E   33 N              1.4    6  GREECE. ML 4.1 (ATH).
28   09 57 30.3  50.733 N    7.804 E   10 G  5.2          1.2   68  GERMANY. ML 4.8 (GRF), 4.3 (BNS). Slight damage (VI) in
                                                                   the Bad Marienberg area. Felt in the
                                                                   Aachen-Krefeld-Frankfurt area.
28   11 02 25.2  35.960 N   71.152 E   93     4.7        1.1   15  PAKISTAN
28   16 57 06.6* 44.011 N  146.767 E   33 N  4.9          1.2   54  KURIL ISLANDS
28   17 53 21.2   6.933 N   73.255 W  152     4.3        1.0   13  NORTHERN COLOMBIA
28   19 27 00.3  36.003 N   79.646 E   33 N  4.7          1.1   31  SOUTHERN SINKIANG PROV., CHINA
28   19 40 06.1* 35.653 N  140.020 E   33 N              0.5    5  NEAR EAST COAST OF HONSHU, JAPAN
28   21 30 43.4? 11.90  N   87.38  W   33 N  4.7 3.5    0.6    8  NEAR COAST OF NICARAGUA
28   22 02 33.1* 21.980 S  171.018 E   33 N  5.1          1.4   18  LOYALTY ISLANDS REGION
28   23 24 28.8& 23.180 N  121.597 E   47              0.2    7  TAIWAN
29   00 23 40.5* 55.496 N  161.932 E   33 N  4.7          1.1   16  NEAR EAST COAST OF KAMCHATKA
29   01 36 43.9* 14.645 S  174.329 W   33 N  4.8          0.8   10  SAMOA ISLANDS REGION
29   02 16 47.4  42.951 N  143.417 E   51     5.1 4.0    0.7   95  HOKKAIDO, JAPAN  REGION
29   06 20 20.9* 36.063 N  141.345 E   33 N  4.4          0.7    7  NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at
                                                                   Chiba.
29   06 52 12.4  51.306 N  175.743 W   48     4.8 3.8    0.8   57  ANDREANOF ISLANDS, ALEUTIAN IS.
29   06 57 40.3  36.965 N   27.904 E    9     4.6        1.4   37  DODECANESE ISLANDS. ML 4.5 (ATH).
29   09 22 55.9? 16.95  S  174.15  W   33 N  4.5          0.4    7  TONGA ISLANDS
29   10 10 47.2* 15.028 N   60.435 W   66     5.0        0.8   24  LEEWARD ISLANDS. Felt (IV) on Martinique.
29   13 23 29.9  62.846 N  151.133 W  137              0.4   21  CENTRAL ALASKA
29   13 58 12.6* 2.698 S  129.545 E   33 N  4.7          1.3   16  CERAM
29   14 57 43.3* 5.726 S  152.455 E   33 N  4.5          1.2    6  NEW BRITAIN REGION
29   16 36 07.2* 14.884 S  178.618 E   33 N  4.6          1.4   30  FIJI ISLANDS REGION
29   18 56 37.3* 12.312 N  125.878 E   33 N  4.4          0.9    7  SAMAR, PHILIPPINE ISLANDS
29   19 24 28.0& 39.216 N   27.794 E   10 G              1.3    6  TURKEY
29   19 29 03.3* 27.654 S   66.103 W  184              0.7    6  CATAMARCA PROVINCE, ARGENTINA
29   22 08 56.4  23.993 N  122.661 E   23     4.3        0.9   18  TAIWAN REGION
29   22 36 29.4* 18.328 N   95.121 W   25     4.6        1.2   42  VERA CRUZ, MEXICO
30   00 05 43.7? 22.07  S  174.16  W   33 N  4.8          1.1   13  TONGA ISLANDS REGION
30   01 57 34.1  44.679 N  151.143 E   33 N  6.6 6.9    0.8  336  KURIL ISLANDS REGION. Ms 7.1 (PAS), 6.9 (BRK). Felt (V)
                                                                   on Shikotan and at Kurilsk; and (III) on Iturup.
     FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=140;  DIP=68;  SLIP=  0.   NP2:  STRIKE=230;  DIP=90;  SLIP= 202
     PRINCIPAL AXES:   (T)  PLG=15;  AZM=  3.   (P)  PLG=15;  AZM= 97
                                                                   Moderately well controlled strike-slip fault type
                                                                   mechanism. NP to be designated as the fault plane not
                                                                   determined.
     CMTS:  (HRV) C063082A   DATA:  GDSN            ; L.P. BODY WAVES:  20S, 56C, T= 45;   MANTLE WAVES:  12S, 34C, T=135
     CENTROID LOCATION   OT  1:57:45.8 0.1;  LAT 44.42N 0.02;  LON 150.94E 0.03;  DEP  20.8 2.1;        HALF-DURATION 12.0
     MT: Scale 10**26 d-cm; MRR=-0.10 0.05; MTT= 2.81 0.05; MFF=-2.71 0.05; MRT= 2.58 0.34; MRF= 2.32 0.31; MTF= 0.57 0.04
     PRINCIPAL AXES:  (T) VAL=  4.72; PLG=33; AZM=344;  (N) VAL= -0.54; PLG=39; AZM=222;  (P) VAL= -4.18;  PLG=34; AZM= 99
     BEST DOUBLE COUPLE:      Mo= 4.4*10**26;   NP1:  STRIKE=131; DIP=39; SLIP=  -1;   NP2:  STRIKE=222; DIP=90; SLIP=-129
30   02 37 48.9  23.906 N  122.387 E   48     4.8        0.9   22  TAIWAN REGION
30   02 59 03.7  32.460 S   71.659 W  118              1.0    8  NEAR COAST OF CENTRAL CHILE
30   04 00 31.2* 23.921 N  122.291 E   33 N              0.7    7  TAIWAN REGION
30   04 35 55.8* 59.547 S   26.073 W   33 N  5.4          1.0   22  SOUTH SANDWICH ISLANDS REGION
30   04 41 38.6* 40.332 N   25.445 E   10 G              1.2   11  AEGEAN SEA
30   05 41 10.5& 16.845 N   61.630 W   33 N              0.4    5  LEEWARD ISLANDS
30   05 55 30.1* 14.787 S  178.775 E   33 N  4.8 5.0    1.4   49  FIJI ISLANDS REGION
30   09 25 05.9? 15.81  N   98.71  W   33 N              0.4    5  OFF COAST OF GUERRERO, MEXICO
30   10 40 46.0* 9.765 S  118.138 E   72     3.8        1.5    9  SUMBAWA ISLAND REGION
30   11 19 10.5  37.592 S  176.517 E  260     3.8        0.7   12  NORTH ISLAND, NEW ZEALAND
30   13 47 49.1& 36.150 N  118.267 W    1 G                    14  CENTRAL CALIFORNIA. <PAS-P>. ML 3.3 (PAS).
30   14 26 55.3* 11.578 S  118.740 E   62              0.4    9  SOUTH OF SUMBAWA ISLAND
30   15 08 38.1* 15.861 N   97.139 W   33 N  4.7          1.1   34  NEAR COAST OF OAXACA, MEXICO
30   18 29 09.2* 35.801 N  140.188 E   76     4.0        0.5   10  NEAR EAST COAST OF HONSHU, JAPAN
30   18 49 07.3* 41.661 N   23.823 E   10 G              0.9   17  GREECE-BULGARIA BORDER REGION
30   21 19 17.9* 4.680 S  144.059 E  104     3.9        1.1   13  NEAR N COAST OF PAPUA NEW GUINEA
30   21 38 46.9* 45.456 N   26.323 E   33 N              1.5    5  ROMANIA
30   23 13 17.6* 38.498 N   12.087 E   13     3.8        0.9   27  SICILY
30   23 30 51.9   3.495 N   95.597 E   48     4.9 4.2    1.0   58  OFF W COAST OF NORTHERN SUMATERA
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Compiled by W. Leroy Irby, Willis L. Jacobs, John H. Minsch, Russell E. Needham, Waverly J. Person, Bruce W. Presgrave and William H. Schmieder.

Fault Plane Solutions: A fault plane solution is determined when possible from P-wave first motions for any earthquake having a magnitude of 6.5 or greater. A description of this solution is reported in the comments on the Preliminary Determination of Epicenters Monthly Listing. Focal sphere solutions and first motion parameters are available upon request from:

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DAY	ORIGIN TIME UTC HR	MN	SEC	GEOGRAPHIC COORDINATES LAT	LONG	DEPTH	MAGNITUDES GS MB	Max	SD	NO. STA USED	REGION, CONTRIBUTED MAGNITUDES AND COMMENTS
01	00	09	52.2	59.476 N	152.826 W	97	4.5		0.8	36	SOUTHERN ALASKA. Felt (III) at Homer.
01	02	56	27.2	18.680 S	69.397 W	149	5.0		0.9	36	NORTHERN CHILE
01	05	49	59.8	48.534 N	22.309 E	14	4.6		1.1	43	SOUTHWESTERN USSR. Felt (V) at Uzhgorod. Also felt in the Czechoslovakia-Hungary border region.
01	07	41	53.2	51.426 N	179.943 W	48	6.3	5.5	1.1	343	ANDREANOF ISLANDS, ALEUTIAN IS. Ms 5.4 (BRK). Felt (IV) on Adak. [F3].
	MOMENT TENSOR SOLUTION. NO OF STA 16. SCALE 10**24 D-CM										
	PRINCIPAL AXES: (T) VAL= 10.72; PLG=74; AZM= 62; (N) VAL= -2.30; PLG=15; AZM=259; (P) VAL= -8.42; PLG= 4; AZM=167										
	BEST DOUBLE COUPLE: Mo= 9.6*10**24; NP1: STRIKE=241; DIP=43; SLIP= 67; NP2: STRIKE= 91; DIP=51; SLIP= 110										
	CMTS: (HRV) B070182A DATA: GDSN ; L.P. BODY WAVES: 17S, 44C, T= 45;										
	CENTROID LOCATION OT 7:41:54.1 0.3; LAT 51.17N 0.03; LON 179.92E 0.06; DEP 49.5 2.2; HALF-DURATION 2.0										
	MT: Scale 10**24 d-cm; MRR= 5.82 0.17; MTT=-5.71 0.21; MFF=-0.11 0.22; MRT= 2.70 0.29; MRF= 1.23 0.27; MTF=-2.50 0.26										
	PRINCIPAL AXES: (T) VAL= 6.49; PLG=77; AZM=331; (N) VAL= 0.84; PLG= 2; AZM= 68; (P) VAL= -7.33; PLG=13; AZM=159										
	BEST DOUBLE COUPLE: Mo= 6.9*10**24; NP1: STRIKE=251; DIP=32; SLIP= 93; NP2: STRIKE= 67; DIP=58; SLIP= 88										
01	08	47	32.7	21.430 S	68.800 W	119	4.4		1.2	30	CHILE-BOLIVIA BORDER REGION
01	09	27	26.2	32.329 S	14.252 W	10 G	4.9	5.1	0.9	27	SOUTH ATLANTIC RIDGE
01	09	28	33.7*	31.458 S	71.367 W	146			0.2	5	NEAR COAST OF CENTRAL CHILE
01	10	43	28.1	36.625 N	70.640 E	84	5.2		1.1	101	HINDU KUSH REGION. Felt (IV) in the northeastern Afghanistan-USSR border area.
01	13	51	17.9*	31.547 N	141.355 E	37	4.9		0.8	9	SOUTH OF HONSHU, JAPAN
01	17	01	58.8*	21.766 S	139.050 W	0 G	5.2		1.2	43	TUAMOTU ARCHIPELAGO REGION
01	18	33	03.5	3.371 S	177.450 E	33 N	5.0		1.1	33	GILBERT ISLANDS REGION
01	20	21	26.9*	34.817 N	47.782 E	33 N	4.6		1.2	17	WESTERN IRAN
01	22	18	11.8*	63.547 N	145.679 W	8			1.2	18	CENTRAL ALASKA. ML 3.6 (PNR).
02	01	37	18.7%	45.049 N	26.59? E	10 G			1.2	6	ROMANIA
02	01	48	00.1	31.628 S	68.719 W	115			0.8	12	SAN JUAN PROVINCE, ARGENTINA
02	02	08	27.1	45.915 N	6.848 E	10 G			0.7	17	FRANCE
02	02	15	22.5*	28.539 N	96.549 E	33 N	4.6		0.9	8	INDIA-CHINA BORDER REGION
02	03	30	24.1?	42.71 N	126.62 W	10 G	4.2		1.1	14	OFF COAST OF OREGON
02	03	49	06.0*	59.923 N	152.308 W	86	3.8		0.9	11	SOUTHERN ALASKA
02	04	52	28.6	5.203 N	94.295 E	66	4.2		0.5	10	NORTHERN SUMATERA
02	05	53	40.7	32.159 S	69.295 W	119	4.2		1.3	16	MENDOZA PROVINCE, ARGENTINA
02	07	03	48.8	36.663 N	71.053 E	231	5.2		1.0	187	AFGHANISTAN-USSR BORDER REGION. Felt (IV).
02	07	55	00.7*	59.856 N	153.622 W	170			0.9	12	SOUTHERN ALASKA
02	08	36	36.7*	3.173 S	177.208 E	33 N	4.8		0.8	18	GILBERT ISLANDS REGION
02	09	08	08.0	5.013 N	126.067 E	107	5.2		1.3	94	MINDANAO, PHILIPPINE ISLANDS
02	09	58	11.4%	16.443 N	60.683 W	33 N			0.3	8	LEEWARD ISLANDS
02	10	04	35.1*	16.557 N	60.458 W	33 N	4.4		0.9	10	LEEWARD ISLANDS
02	11	59	35.6	13.056 N	89.287 W	64	5.0		1.2	177	EL SALVADOR. Ms 5.9 (BRK). Felt (IV).
	CMTS: (HRV) B070282A DATA: GDSN ; L.P. BODY WAVES: 16S, 36C, T= 45;										
	CENTROID LOCATION OT 11:59:33.8 0.5; LAT 12.45N 0.07; LON 89.40W 0.05; DEP 23.4 4.1; HALF-DURATION 2.0										
	MT: Scale 10**24 d-cm; MRR= 1.66 0.13; MTT=-1.22 0.17; MFF=-0.44 0.18; MRT= 4.77 0.62; MRF=-4.79 0.59; MTF= 1.81 0.15										
	PRINCIPAL AXES: (T) VAL= 6.62; PLG=54; AZM= 49; (N) VAL= 0.98; PLG= 3; AZM=315; (P) VAL= -7.59; PLG=36; AZM=222										
	BEST DOUBLE COUPLE: Mo= 7.1*10**24; NP1: STRIKE=295; DIP= 9; SLIP= 70; NP2: STRIKE=135; DIP=81; SLIP= 93										
02	12	14	49.9	42.588 N	24.245 E	10 G			1.2	11	BULGARIA
02	13	54	31.6*	49.596 N	156.092 E	33 N	4.3		0.7	7	KURIL ISLANDS
02	18	09	54.3	41.716 N	24.119 E	10 G			0.5	9	GREECE-BULGARIA BORDER REGION
02	19	40	26.7	6.271 S	150.854 E	56	4.5		1.2	25	NEW BRITAIN REGION
02	20	01	14.9*	3.006 S	129.610 E	59	4.4		1.4	10	CERAM
02	22	05	43.4	28.059 S	66.592 W	193			1.0	12	CATAMARCA PROVINCE, ARGENTINA
03	00	13	17.6?	19.13 N	109.15 W	10 G	4.2	3.6	0.7	10	REVILLA GIGEDO ISLANDS REGION
03	03	41	33.5	44.788 N	17.222 E	10 G			1.2	7	YUGOSLAVIA. ML 3.4 (TRI).
03	04	49	32.0	46.397 N	7.520 E	10 G			1.2	47	SWITZERLAND. ML 4.3 (GRF).
03	04	57	33.8	6.098 S	150.696 E	86	5.2		1.3	40	NEW BRITAIN REGION
	CMTS: (HRV) B070382A DATA: GDSN ; L.P. BODY WAVES: 11S, 29C, T= 45;										
	CENTROID LOCATION OT 4:57:35.1 0.5; LAT 6.36S 0.07; LON 150.44E 0.06; DEP 16.4 2.6; HALF-DURATION 1.7										
	MT: Scale 10**24 d-cm; MRR= 1.04 0.06; MTT=-0.98 0.06; MFF=-0.06 0.07; MRT= 1.46 0.36; MRF=-0.01 0.14; MTF=-0.05 0.06										
	PRINCIPAL AXES: (T) VAL= 1.81; PLG=62; AZM= 2; (N) VAL= -0.06; PLG= 1; AZM=269; (P) VAL= -1.75; PLG=28; AZM=179										
	BEST DOUBLE COUPLE: Mo= 1.8*10**24; NP1: STRIKE=265; DIP=17; SLIP= 85; NP2: STRIKE= 90; DIP=73; SLIP= 91										

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03   05 26 18.1* 62.223 N  151.109 W   83                0.3    8  CENTRAL ALASKA
03   06 51 29.3* 0.335 N   124.970 E  138     4.8        0.3    9  MINAHASSA PENINSULA
03   06 58 45.7  26.398 N   99.613 E   33 N   4.3        0.8   13  YUNNAN PROVINCE, CHINA
03   07 36 38.2? 51.41  N  179.99  W   33 N   4.4        1.4   11  ANDREANOF ISLANDS, ALEUTIAN IS.
03   08 13 35.9  26.616 N  100.100 E   33 N   5.1 4.8    1.6   84  YUNNAN PROVINCE, CHINA
03   09 50 53.1* 40.022 N   22.756 E   10 G               1.7    7  GREECE
03   13 42 01.5  46.264 N   15.032 E   10 G               1.3   33  YUGOSLAVIA. ML 3.5 (TRI), 3.5 (GRF). Minor damage in
                                                                    the Prebold-Celje area.
03   14 36 30.3  22.?16 N  143.411 E  165 D   5.2        0.9  115  VOLCANO ISLANDS REGION
03   14 48 51.7  46.340 N    7.494 E   10 G               1.4   17  SWITZERLAND. ML 3.4 (GRF).
03   17 08 38.9* 51.399 N  179.917 W   63     4.7        0.9   53  ANDREANOF ISLANDS, ALEUTIAN IS.
03   20 46 34.0  44.741 N  151.153 E   33 N   5.2        0.9   88  KURIL ISLANDS REGION
03   23 17 45.0? 40.36  N   63.48  E   33 N   4.4        1.2    6  UZBEK SSR. Felt at Gasli.
03   23 21 12.0   3.737 S   28.951 E   10 G   5.2        1.0  103  LAKE TANGANYIKA REGION
03   23 45 13.4  48.320 N  154.924 E   33 N   4.7        0.7   42  KURIL ISLANDS
04   00 09 29.4* 6.054 S   147.253 E  107                1.2    7  EAST PAPUA NEW GUINEA REGION
04   01 17 14.4  49.995 N   78.856 E    0 G   6.1 4.9    0.8  243  EASTERN KAZAKH SSR. Underground nuclear explosion.
                                                                    (Dept. of Energy press release N82-020).
04   01 20 06.8  27.929 N  136.967 E  536 D   6.3        1.0  314  EAST OF RYUKYU ISLANDS. mb 6.5 (PAS), 6.3 (BRK). [FS].
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE= 87;  DIP=70;  SLIP= 215.   NP2:  STRIKE=344;  DIP=57;  SLIP= 336
        PRINCIPAL AXES:   (T)  PLG= 8;  AZM=213.   (P)  PLG=39;  AZM=309
                                                                    Poorly controlled normal fault type mechanism with a
                                                                    moderate amount of strike-slip component. NP to be
                                                                    designated as the fault plane not determined.
   MOMENT TENSOR SOLUTION.   NO OF STA   9.   SCALE 10**26 D-CM
   PRINCIPAL AXES:  (T) VAL=  5.26; PLG=31; AZM=195;  (N) VAL=  0.85; PLG=27; AZM= 87;  (P) VAL= -6.11;  PLG=47; AZM=325
   BEST DOUBLE COUPLE:       Mo= 5.7*10**26;    NP1:  STRIKE=337; DIP=28; SLIP= -18;    NP2:  STRIKE= 83; DIP=81; SLIP=-117
   CMTS:  (BRV) C070482A   DATA:  GDSN              ;  L.P. BODY WAVES:  18S, 50C, T= 45;   MANTLE WAVES:  12S, 34C, T=135
   CENTROID LOCATION   OT  1:20:13.1 0.2;  LAT 27.92N 0.02;  LON 136.48E 0.03;  DEP 551.8 1.3;          HALF-DURATION 10.0
   MT: Scale 10**26 d-cm; MRR=-0.32 0.02; MTT= 0.64 0.02; MFF=-0.32 0.02; MRT=-1.07 0.02; MRF=-0.14 0.02; MTF=-0.35 0.02
   PRINCIPAL AXES:  (T) VAL=  1.36; PLG=32; AZM=189;  (N) VAL= -0.23; PLG=22; AZM= 84;  (P) VAL= -1.13;  PLG=50; AZM=326
   BEST DOUBLE COUPLE:       Mo= 1.3*10**26;    NP1:  STRIKE=328; DIP=24; SLIP= -24;    NP2:  STRIKE= 80; DIP=80; SLIP=-112
04   02 22 14.0   3.778 S   28.917 E   10 G   5.0        1.0   85  LAKE TANGANYIKA REGION
04   03 09 44.7  16.516 N   98.405 W   41 D   4.5        1.1   37  NEAR COAST OF GUERRERO, MEXICO
04   06 16 08.4   7.653 N   72.197 W   54     5.5        0.8  178  NORTHERN COLOMBIA. Felt at Cucuta and San Cristobal,
                                                                    Venezuela.
   CMTS:  (BRV) B070482B   DATA:  GDSN              ;  L.P. BODY WAVES:  7S, 19C, T= 45;
   CENTROID LOCATION   OT  6:16: 8.6 2.5;  LAT  7.66N FIX;   LON  72.19W  FIX;  DEP  81.3±4.0;          HALF-DURATION  1.3
   MT: Scale 10**23 d-cm; MRR= 0.99 0.98; MTT= 3.86 1.49; MFF=-4.84 1.76; MRT= 1.06 0.94; MRF= 1.49 0.55; MTF=-0.07 1.10
   PRINCIPAL AXES:  (T) VAL=  4.22; PLG=19; AZM=357;  (N) VAL=  0.99; PLG=66; AZM=215;  (P) VAL= -5.21;  PLG=14; AZM= 92
   BEST DOUBLE COUPLE:       Mo= 4.7*10**23;    NP1:  STRIKE=136; DIP=66; SLIP=  4;    NP2:  STRIKE= 44; DIP=86; SLIP= 156
04   10 14 22.5   4.891 S   102.700 E   73     5.0        1.1   31  SOUTHERN SUMATERA
04   12 44 03.4& 35.767 N   117.733 W    8 G                     23  CENTRAL CALIFORNIA. <PAS-P>. ML 3.6 (PAS), 3.7 (BRK).
                                                                    Felt (IV) in the Ridgecrest-China Lake area.
04   14 03 25.2* 2.356 N    99.042 E   153     3.8        1.4    7  NORTHERN SUMATERA
04   14 11 36.5  26.242 S   28.258 E     5 G               0.8    9  REPUBLIC OF SOUTH AFRICA
04   14 41 28.5  32.242 S   68.485 W   134                 0.3    6  MENDOZA PROVINCE, ARGENTINA
04   14 51 51.8  43.996 N   146.774 E   69     4.7        0.9   37  KURIL ISLANDS. Felt (IV) on Shikotan.
04   14 57 45.8& 45.322 N    26.981 E   10 G               1.3    6  ROMANIA
04   18 21 12.0  30.067 S   75.807 E   10 G   4.8        0.9   24  MID-INDIAN RISE
04   18 34 27.7  19.531 N   90.615 E   33 N   5.2 5.2    1.1  143  BAY OF BENGAL
04   19 06 05.3* 46.643 N   151.083 E   33 N   4.8        0.6   14  KURIL ISLANDS
04   19 47 50.1  20.589 S   177.096 W  313     4.8        0.7   14  FIJI ISLANDS REGION
04   21 26 38.8  19.531 S   173.810 W   88     5.6        1.3   80  TONGA ISLANDS
   CMTS:  (BRV) B070482C   DATA:  GDSN              ;  L.P. BODY WAVES:  13S, 35C, T= 45;
   CENTROID LOCATION   OT 21:26:38.8 0.3;  LAT 19.33S 0.04;  LON 173.43W 0.04;  DEP  12.1 1.8;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 1.65 0.06; MTT= 0.01 0.08; MFF=-1.66 0.07; MRT= 0.70 0.19; MRF= 0.57 0.20; MTF=-0.48 0.06
   PRINCIPAL AXES:  (T) VAL=  1.95; PLG=71; AZM=341;  (N) VAL= -0.01; PLG=15; AZM=201;  (P) VAL= -1.94;  PLG=12; AZM=108
   BEST DOUBLE COUPLE:       Mo= 1.9*10**24;    NP1:  STRIKE=179; DIP=36; SLIP=  64;    NP2:  STRIKE= 31; DIP=59; SLIP= 108
04   23 46 20.7& 37.748 N    15.167 E   10 G               1.0    9  SICILY
05   00 07 09.1& 15.016 N    60.724 W   33 N               0.6    8  LEEWARD ISLANDS
05   03 07 45.3& 35.?00 N    92.230 W    2 G                      7  ARKANSAS. <TEIC>. mbLg 2.6 (TUL).
05   04 13 49.7& 35.200 N    92.250 W    0 G                     18  ARKANSAS. <TEIC>. mbLg 3.8 (TUL). Felt.
05   06 13 36.4  25.966 N   90.565 E   33 N               0.8   11  INDIA-BANGLADESH BORDER REGION
05   08 56 55.6  30.997 N   130.451 E  116 D   5.7        1.0  234  KYUSHU, JAPAN. Felt (III JMA).
   CMTS:  (BRV) B070582A   DATA:  GDSN              ;  L.P. BODY WAVES:  10S, 24C, T= 45;
   CENTROID LOCATION   OT  8:57: 1.1 0.4;  LAT 30.77N 0.04;  LON 13C.47E 0.05;  DEP 119.0 2.7;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 0.14 0.08; MTT=-0.49 0.13; MFF= 0.35 0.15; MRT= 1.49 0.08; MRF= 1.76 0.08; MTF=-0.06 0.11
   PRINCIPAL AXES:  (T) VAL=  2.38; PLG=45; AZM=301;  (N) VAL= -0.07; PLG=10; AZM= 41;  (P) VAL= -2.31;  PLG=43; AZM=141
   BEST DOUBLE COUPLE:       Mo= 2.3*10**24;    NP1:  STRIKE=304; DIP=10; SLIP= 173;    NP2:  STRIKE= 41; DIP=89; SLIP=  80
05   09 02 37.1& 36.667 N   121.357 W    8 G                     11  CENTRAL CALIFORNIA. <BRK>. ML 3.2 (BRK).
05   09 38 28.6   9.847 N    93.830 E   143     4.5        1.1   22  NICOBAR ISLANDS REGION
05   10 35 36.3* 31.260 S   178.800 W   120     5.6        0.9   14  KERMADEC ISLANDS REGION
05   11 17 07.4  23.893 S   179.754 W   513     5.0        1.1   54  SOUTH OF FIJI ISLANDS
05   11 55 45.5   1.672 N   127.428 E   133     5.1        1.0   62  HALMAHERA
05   14 04 21.4*  7.084 S   156.002 E    83     4.8        0.9   16  SOLOMON ISLANDS
05   15 54 24.5? 34.63  N    51.02  E   33 N   4.4        1.0    5  IRAN
05   16 14 46.1  13.070 N   91.054 W    53     4.7        1.0   45  NEAR COAST OF GUATEMALA
05   18 38 02.3* 38.793 N    24.768 E   10 G               1.1    9  AEGEAN SEA. ML 3.2 (ATH).
05   18 50 16.8  29.646 N   141.245 E   41     4.5        0.9   12  SOUTH OF HONSHU, JAPAN
05   20 34 30.5* 46.344 N    7.357 E   10 G               0.6   14  SWITZERLAND
05   21 22 26.9  20.828 S   178.801 W   615     5.5        0.9  248  FIJI ISLANDS REGION
   CMTS:  (BRV) B070582B   DATA:  GDSN              ;  L.P. BODY WAVES:  12S, 33C, T= 45;
   CENTROID LOCATION   OT 21:22:35.8 0.3;  LAT 20.33S 0.05;  LON 179.20W 0.03;  DEP 612.0 2.8;          HALF-DURATION  3.0
   MT: Scale 10**24 d-cm; MRR=-2.94 0.14; MTT= 1.33 0.22; MFF= 1.61 0.18; MRT=-2.71 0.20; MRF=-1.99 0.20; MTF= 1.73 0.19
   PRINCIPAL AXES:  (T) VAL=  4.66; PLG=24; AZM=136;  (N) VAL= -0.20; PLG= 6; AZM=229;  (P) VAL= -4.46;  PLG=65; AZM=332
   BEST DOUBLE COUPLE:       Mo= 4.6*10**24;    NP1:  STRIKE=213; DIP=22; SLIP=-106;    NP2:  STRIKE= 51; DIP=69; SLIP= -84
05   22 01 50.6? 29.68  N   114.70  W   10 G               1.5    6  BAJA CALIFORNIA. Felt in the San Luis Island area.
05   22 17 09.3  12.891 N    95.569 E   33 N   4.8        1.0   46  ANDAMAN ISLANDS REGION
06   00 59 14.9? 23.91  N   122.35  E   33 N              0.7    7  TAIWAN REGION
06   02 10 43.5& 37.693 N   115.051 W    3 G   4.1             52  SOUTHERN NEVADA. <GS>. ML 4.2 (NEIS), 4.7 (BRK). Felt
                                                                    (III) at Hiko.
06   03 16 49.7* 32.467 S    71.023 W   100     4.7        1.2   10  NEAR COAST OF CENTRAL CHILE
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06	05	12	36.7	15.560	N	97.336	W	48		4.3	0.9	23	NEAR COAST OF OAXACA, MEXICO
06	06	13	35.5	25.910	N	90.315	E	33	N	5.1	0.9	89	INDIA-BANGLADESH BORDER REGION. Felt at Rangpur, Bangladesh.
06	09	05	21.5*	6.553	S	11.630	W	10	G	4.8 4.4	0.7	19	ASCENSION ISLAND REGION
06	09	32	49.0*	44.749	N	111.702	W	5	G		0.9	10	HEBGEN LAKE REGION. ML 3.3 (MSO).
06	13	25	16.5*	35.832	N	139.961	E	126		4.3	0.6	10	NEAR S. COAST OF HONSHU, JAPAN
06	14	36	47.4?	37.29	N	15.31	E	10	G	3.7	1.1	6	SICILY
06	14	53	33.5	14.210	N	120.604	E	149		5.3	1.0	135	LUZON, PHILIPPINE ISLANDS. Felt in northern Mindoro.
06	15	01	29.3	2.926	N	128.352	E	69		5.4	1.2	90	HALMAHERA
06	15	40	55.6	2.873	N	128.425	E	64		4.9	1.3	38	HALMAHERA
06	17	10	00.6?	53.35	N	167.32	W	77			1.7	7	FOX ISLANDS, ALEUTIAN ISLANDS
06	17	33	08.8	59.223	N	152.636	W	69		4.8	0.9	104	SOUTHERN ALASKA. Felt (IV) at Homer.
06	18	33	40.4	2.984	N	99.177	E	190		3.6	1.3	11	NORTHERN SUMATERA
06	19	20	43.4	20.678	S	178.901	W	623		4.5	0.9	28	FIJI ISLANDS REGION
06	19	23	25.4*	12.781	S	165.820	E	82			1.3	14	SANTA CRUZ ISLANDS
06	19	48	11.9	61.687	N	150.190	W	18			0.9	14	SOUTHERN ALASKA. ML 3.3 (PMR). Felt (III) at Wasilla.
07	01	42	56.8	3.253	S	177.467	E	33	N	5.3 5.4	0.9	93	GILBERT ISLANDS REGION
07	01	52	41.2	11.491	N	86.387	W	68		5.3	1.2	141	NEAR COAST OF NICARAGUA. Felt.
07	04	45	41.6	43.282	N	146.615	E	33	N	4.6	0.7	20	KURIL ISLANDS
07	08	08	42.6	5.922	S	148.584	E	112		4.8	0.6	7	NEW BRITAIN REGION
07	08	44	33.7&	34.150	N	116.700	W	11	G			15	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.6 (PAS). Felt at Palm Desert and Lucerne Valley.
07	10	43	03.7	51.225	S	160.513	E	10	G	6.3 7.0	1.3	286	NORTH OF MACQUARIE ISLAND. Ms 7.3 (BRK), 7.1 (PAS). [FS].

FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE=328; DIP=90; SLIP= 0. NP2: STRIKE= 58; DIP=90; SLIP= 180
PRINCIPAL AXES: (T) PLG= 0; AZM= 13. (P) PLG= 0; AZM=103
Moderately well controlled right-lateral strike-slip fault type mechanism. NP2 designated as the fault plane.

CMTS: (HRV) C070782A DATA: GDSN ; L.P. BODY WAVES: 22S, 65C, T= 45; MANTLE WAVES: 14S, 39C, T=135
CENTROID LOCATION OT 10:43:17.1 0.2; LAT 51.23S 0.02; LON 159.95E 0.03; DEP 10.0 FIX; HALF-DURATION 9.0
MT: Scale 10**26 d-cm; MRR=-1.56 0.06; MTT= 4.48 0.07; MFF=-2.92 0.06; MRT=-0.28 0.21; MRF=-0.71 0.20; MTF=-2.51 0.06
PRINCIPAL AXES: (T) VAL= 5.25; PLG= 1; AZM=197; (N) VAL= -1.32; PLG=72; AZM=105; (P) VAL= -3.94; PLG=18; AZM=287
BEST DOUBLE COUPLE: Mo= 4.6*10**26; NP1: STRIKE=331; DIP=77; SLIP= -12; NP2: STRIKE= 63; DIP=78; SLIP=-167

07	12	16	57.0	51.373	S	160.595	E	10	G	5.3	1.1	43	NORTH OF MACQUARIE ISLAND
07	13	48	42.3	55.382	N	4.500	E	10	G		1.2	9	NORTH SEA
07	18	33	08.7	41.993	N	142.514	E	65		4.8	1.1	51	HOKKAIDO, JAPAN REGION
08	01	55	27.5	35.071	N	25.948	E	74		4.3	0.8	35	CRETE
08	02	21	45.2	41.165	N	24.113	E	10	G		0.9	13	GREECE-BULGARIA BORDER REGION
08	04	21	30.9	27.377	N	44.482	W	10	G	4.6	0.6	31	NORTH ATLANTIC RIDGE
08	06	43	16.2*	53.099	N	167.030	W	58		4.5	0.9	29	FOX ISLANDS, ALEUTIAN ISLANDS
08	08	07	13.0	15.854	N	147.281	E	33	N	4.4	0.7	25	MARIANA ISLANDS REGION
08	10	35	24.6	39.147	N	25.140	E	11		4.5	1.1	88	AEGEAN SEA. ML 4.4 (ATH). Felt.
08	11	29	36.4	39.013	N	25.276	E	10	G	3.2	0.6	12	AEGEAN SEA. ML 3.2 (ATH).
08	13	42	47.6?	26.94	N	127.16	E	113		4.0	1.3	9	RYUKYU ISLANDS
08	15	41	17.4*	27.475	N	112.237	W	10	G	4.9	0.9	51	BAJA CALIFORNIA
08	18	28	12.6	43.490	N	20.102	E	10	G	3.6	1.2	22	YUGOSLAVIA. ML 4.1 (TRI), 4.0 (TIR).
08	18	49	01.0	43.516	N	20.215	E	10	G		1.2	8	YUGOSLAVIA. ML 3.5 (TIR).
09	02	23	50.7*	50.267	N	179.943	W	38		4.8	1.0	22	ANDREANOF ISLANDS, ALEUTIAN IS.
09	02	43	59.2	12.204	N	143.463	E	33	N	4.8	1.2	35	SOUTH OF MARIANA ISLANDS
09	08	01	18.5	36.341	N	76.755	E	33	N	5.3	0.9	105	KASHMIR-SINKIANG BORDER REGION
09	10	43	11.4	2.090	N	126.656	E	72		5.1	1.2	79	MOLUCCA PASSAGE
09	14	47	04.1	6.768	N	73.071	W	166		4.4	0.8	26	NORTHERN COLOMBIA
09	16	55	53.0	25.203	N	143.887	E	33	N	4.9	1.0	35	VOLCANO ISLANDS REGION
09	17	01	48.1	21.242	S	173.986	W	55		5.3 4.9	1.1	80	TONGA ISLANDS
09	17	08	45.5	9.779	N	126.692	E	33	N	4.6	0.9	16	MINDANAO, PHILIPPINE ISLANDS
09	23	16	47.8&	15.175	N	60.438	W	33	N		0.3	7	LEEWARD ISLANDS
10	01	19	54.8?	44.19	N	110.90	W	5	G		0.4	11	YELLOWSTONE NATIONAL PARK, WYO. ML 3.0 (HEIS). Felt (III) in the Old Faithful and Grant Village areas.
10	02	05	27.3	5.666	S	133.682	E	33	N	4.7	1.2	33	AROE ISLANDS REGION
10	02	53	01.7	23.568	N	123.026	E	33	N	4.8	1.2	53	SOUTHWESTERN RYUKYU ISLANDS
10	03	59	05.1*	5.278	S	145.790	E	124		3.9	0.8	7	EAST PAPUA NEW GUINEA REGION
10	08	33	29.8?	17.77	N	60.93	W	33	N		0.3	5	LEEWARD ISLANDS
10	09	22	37.6	61.170	N	149.661	W	59		4.3	1.2	22	SOUTHERN ALASKA. Felt (IV) at Anchorage and (III) at Palmer.
10	11	54	03.5*	55.609	S	146.124	E	10	G	4.3	0.3	7	WEST OF MACQUARIE ISLAND
10	12	04	40.2	55.985	S	146.843	E	10	G	5.1 5.5	1.4	50	WEST OF MACQUARIE ISLAND
10	12	54	40.2*	31.104	S	70.153	W	156			0.3	6	CHILE-ARGENTINA BORDER REGION
10	13	06	59.4	7.492	S	128.486	E	171		5.2	1.1	106	BANDA SEA
10	18	10	14.1	16.592	N	145.605	E	154		5.3	1.0	18	MARIANA ISLANDS
10	19	22	15.1	11.717	N	93.276	E	87		4.5	1.2	20	ANDAMAN ISLANDS REGION
10	20	11	50.2*	51.606	N	176.049	W	62		4.5	1.0	26	ANDREANOF ISLANDS, ALEUTIAN IS.
10	20	34	47.6	33.916	N	100.988	E	33	N	4.7	0.7	15	QINGHAI PROVINCE, CHINA
10	22	42	33.7	9.802	N	126.614	E	55		5.0	0.9	24	MINDANAO, PHILIPPINE ISLANDS
11	02	13	37.7	16.649	S	73.214	W	39		5.3 5.2	1.0	147	NEAR COAST OF PERU. Felt (III) at Arequipa.
11	03	01	56.0?	42.43	N	7.13	E	10	G		0.5	6	WESTERN MEDITERRANEAN SEA. ML 2.9 (LDG).
11	05	38	06.4*	17.344	S	179.151	W	540		4.2	0.6	22	FIJI ISLANDS REGION
11	05	53	50.1?	3.30	S	177.28	E	33	N	4.6	0.6	18	GILBERT ISLANDS REGION
11	08	01	10.0	16.382	S	178.107	E	33	N	4.9	1.2	34	FIJI ISLANDS. Felt (III) in the Mbua area, Vanua Levu.
11	10	40	12.4	23.726	N	44.898	W	10	G	5.1 4.9	0.9	152	NORTH ATLANTIC RIDGE
11	11	16	54.2	29.952	S	71.639	W	52	D	4.7	1.0	36	NEAR COAST OF CENTRAL CHILE. Felt (V) at La Serena, (IV) at Coquimbo and (III) at Vicuna. Also felt at Ovalle and Illapel.
11	12	03	00.6	44.993	N	6.662	E	12			0.4	18	FRANCE. ML 3.2 (LDG).
11	13	19	50.9	27.830	N	56.255	E	46		5.3 4.4	0.9	178	SOUTHERN IRAN
11	13	30	37.5*	18.058	S	168.620	E	40		4.5	1.2	17	VANUATU ISLANDS
11	17	23	28.2	55.729	N	162.097	E	33	N	4.5	0.7	10	NEAR EAST COAST OF KAMCHATKA
11	17	42	31.5*	14.022	S	76.057	W	33	N		0.7	6	NEAR COAST OF PERU
11	17	44	12.9	3.216	S	177.550	E	31	D	5.2	0.9	80	GILBERT ISLANDS REGION
11	18	02	23.5*	27.600	N	112.242	W	10	G	4.9 4.8	1.0	58	BAJA CALIFORNIA
11	19	42	28.4*	44.006	N	96.722	W	5	G		1.3	18	MINNESOTA. mbLg 3.4 (TUL). Felt (V) at Brandon and Sherman, South Dakota. Felt (IV) at Chester, Colman, Colton, Corson, Garretson, Lyons, Nunda, Renner, Trent

and Ward, South Dakota. Also felt (IV) at Hills and Luverne, Minnesota and (III) at Brunsville and George, Iowa.

11	20	15	34.8?	27.91	N	112.11	W	10	G	4.3		1.7	6	BAJA CALIFORNIA
11	20	45	18.7	13.790	N	145.015	E	121		4.5		1.1	40	MARIANA ISLANDS. Felt (IV) on Guam.
11	22	17	56.6*	13.277	N	50.903	E	10	G	4.5		1.4	12	EASTERN GULF OF ADEN
11	23	42	12.4*	61.553	N	145.937	W	33	N			0.5	9	SOUTHERN ALASKA. ML 3.0 (PMR).
12	00	05	35.8*	39.161	N	25.479	E	9		3.1		0.9	17	AEGEAN SEA. ML 3.4 (ATH).
12	00	33	56.0	45.465	N	6.671	E	10	G			0.6	15	FRANCE. ML 2.9 (LDG).
12	01	06	26.2&	34.117	N	116.400	W	4	G				10	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
12	02	57	35.6*	24.967	N	122.436	E	148				0.2	7	TAIWAN REGION
12	03	28	46.1*	28.869	N	55.402	E	33	N	4.4		1.4	9	SOUTHERN IRAN
12	05	04	37.6	40.846	N	48.338	E	33	N	4.1	3.3	1.3	10	EASTERN CAUCASUS. Felt (IV) at Pirkulioba and (III) at Shemakha.
12	08	10	22.1*	63.886	N	149.080	W	136				0.7	10	CENTRAL ALASKA
12	12	02	45.7*	31.527	S	68.972	W	115		4.4		1.0	14	SAN JUAN PROVINCE, ARGENTINA
12	13	35	41.8*	4.446	N	73.630	W	16		4.7		1.3	11	COLOMBIA. Felt at Villavicencio.
12	14	35	50.8	7.294	S	129.137	E	166		5.0		1.1	26	BANDA SEA
12	14	43	45.2&	45.072	N	26.091	E	10	G			0.8	6	ROMANIA
12	14	46	13.7	41.036	N	27.702	E	28		4.5	3.7	1.4	38	TURKEY. ML 4.4 (ATH).
12	14	49	10.7?	2.85	S	177.63	E	33	N	4.3		0.3	6	GILBERT ISLANDS REGION
12	16	26	42.1*	3.385	S	177.596	E	33	N	4.1		1.2	8	GILBERT ISLANDS REGION
12	17	43	31.7	35.942	N	23.102	E	39		4.0	3.3	1.3	17	CRETE. ML 3.7 (ATH).
12	17	47	14.4	21.109	N	121.414	E	47		4.5	3.5	1.0	29	TAIWAN REGION
12	18	42	04.8?	21.96	S	171.47	E	33	N			0.6	6	LOYALTY ISLANDS REGION
12	19	03	33.4*	37.317	N	58.484	E	33	N	3.6		1.0	5	IRAN-USSR BORDER REGION
12	19	15	10.9*	32.298	S	69.397	W	117				0.1	5	MENDOZA PROVINCE, ARGENTINA
12	22	17	32.2*	10.662	S	161.395	E	72		4.7		1.1	7	SOLOMON ISLANDS
12	22	51	27.0*	39.286	N	25.689	E	10	G			0.9	19	AEGEAN SEA. ML 3.5 (ATH).
12	22	53	28.7	17.253	N	144.947	E	25	D	4.7	3.8	1.1	33	MARIANA ISLANDS REGION
12	23	51	37.7?	15.69	S	173.89	W	33	N	4.6		1.0	13	TONGA ISLANDS
13	00	05	29.3?	45.63	N	18.02	E	10	G			1.2	5	YUGOSLAVIA. ML 2.9 (TRI). Felt at Novi Marof.
13	01	13	25.9*	18.122	S	178.212	W	595		4.2		0.7	12	FIJI ISLANDS REGION
13	01	44	58.9	42.637	N	13.013	E	17				1.2	18	CENTRAL ITALY. ML 3.3 (TRI).
13	01	47	32.5*	31.413	S	68.185	W	116				1.4	6	SAN JUAN PROVINCE, ARGENTINA
13	01	56	12.5*	12.752	S	78.223	W	33	N	4.5		0.8	6	OFF COAST OF PERU
13	02	18	49.0&	46.030	N	74.550	W	17	G				10	SOUTHERN QUEBEC. <OTT>. mbLg 3.9 (OTT). Widely felt in western Quebec north of Montreal.
13	04	30	56.0&	36.040	N	89.910	W	11	G				8	NEW MADRID, MISSOURI REGION. <TEIC>. mbLg 2.6 (MEIS). Felt (III) at Blytheville, Arkansas and Holland, Missouri.
13	04	50	17.5&	43.430	N	3.445	E	10	G			1.1	9	NEAR SOUTH COAST OF FRANCE. ML 2.5 (LDG).
13	05	46	43.0	8.426	S	115.236	E	139		5.1		1.2	22	BALI ISLAND REGION
13	06	03	41.7?	2.55	S	177.97	E	32	D	4.5		0.6	13	GILBERT ISLANDS REGION
13	06	34	28.8?	13.91	S	167.46	E	128				1.3	13	VANUATU ISLANDS
13	07	28	11.3?	3.71	S	177.12	E	33	N	4.2		0.7	6	GILBERT ISLANDS REGION
13	08	24	22.6*	43.256	N	126.410	W	10	G	4.8	4.0	1.1	39	OFF COAST OF OREGON
13	08	45	55.7	32.938	N	137.654	E	341		4.9		0.8	128	SOUTH OF HONSHU, JAPAN. Felt (I JMA) at Utsunomiya.
13	11	42	17.8	3.203	S	177.512	E	30	D	5.3	4.4	0.9	61	GILBERT ISLANDS REGION
13	13	12	36.6*	30.839	N	101.195	E	33	N	4.3		1.1	5	SICHUAN PROVINCE, CHINA
13	13	49	48.3	3.305	S	177.592	E	30	D	5.5	4.3	0.8	103	GILBERT ISLANDS REGION

CMTS: (HRV) B071382A DATA: GDSN ; L.P. BODY WAVES: 9S, 21C, T= 45;
CENTROID LOCATION OT 13:49:49.1 0.7; LAT 3.28S 0.08; LON 177.53E 0.08; DEP 10.0 FIX; HALF-DURATION 2.0
MT: Scale 10**23 d-cm; MRR= 8.31 0.59; MTT=-7.92 0.79; MFF=-0.39 0.68; MRT= 4.26 2.69; MRF=-1.64 2.00; MTF= 4.79 0.61
PRINCIPAL AXES: (T) VAL= 9.39; PLG=77; AZM= 13; (N) VAL= 1.92; PLG= 3; AZM=115; (P) VAL=-11.31; PLG=13; AZM=206
BEST DOUBLE COUPLE: Mo= 1.0*10**24; NP1: STRIKE=300; DIP=32; SLIP= 95; NP2: STRIKE=113; DIP=58; SLIP= 87

13	14	15	39.2?	30.59	N	49.17	E	33	N	4.1		1.2	7	WESTERN IRAN
13	15	15	30.6*	39.301	N	143.596	E	36	D	4.3	4.1	0.7	16	OFF EAST COAST OF HONSHU, JAPAN
13	16	09	11.0*	44.617	N	9.785	E	31				1.0	13	NORTHERN ITALY. ML 3.3 (LDG).
13	16	46	00.2*	19.873	S	177.816	W	553		4.5		0.6	8	FIJI ISLANDS REGION
13	17	05	18.4	5.797	N	125.921	E	158	D	5.3		1.0	105	MINDANAO, PHILIPPINE ISLANDS
13	17	53	12.8*	39.776	N	24.377	E	10				1.1	18	AEGEAN SEA. ML 3.9 (ATH).
13	21	16	30.0?	27.57	S	71.72	W	33	N			0.6	6	NEAR COAST OF NORTHERN CHILE
13	22	03	14.7	34.178	N	101.547	E	33	N	4.3		0.7	7	QINGHAI PROVINCE, CHINA
13	22	18	03.9?	3.92	S	176.93	E	33	N	4.3		0.6	9	GILBERT ISLANDS REGION
13	23	25	44.1*	3.494	S	177.629	E	31	D	4.7		1.2	13	GILBERT ISLANDS REGION
14	00	51	52.1*	6.896	S	129.455	E	178				1.4	11	BANDA SEA
14	00	56	36.5	51.681	N	16.098	E	11				0.8	19	POLAND. ML 4.0 (GRF).
14	01	38	50.2?	13.30	S	28.83	E	10	G			1.5	5	ZAMBIA
14	05	20	53.8*	28.731	S	67.619	W	176				1.6	7	LA RIOJA PROVINCE, ARGENTINA
14	07	20	58.5*	16.135	N	121.974	E	55		4.6	3.6	1.1	22	LUZON, PHILIPPINE ISLANDS
14	07	46	13.8?	28.19	N	112.02	W	10	G	3.6		1.8	5	GULF OF CALIFORNIA
14	08	04	29.7*	18.609	S	12.626	W	10	G	4.8		1.5	10	SOUTH ATLANTIC RIDGE
14	08	17	00.1*	64.694	N	152.337	W	33	N			0.4	15	CENTRAL ALASKA. ML 3.9 (PMR).
14	09	17	00.7&	12.057	S	76.710	W	57				0.3	5	NEAR COAST OF PERU
14	10	42	13.5	45.642	N	143.364	E	325	D	5.3		1.0	185	HOKKAIDO, JAPAN REGION
14	11	00	01.8?	21.30	S	174.67	E	33	N	5.0		1.3	15	VANUATU ISLANDS REGION
14	11	15	34.1?	67.93	N	161.49	W	15	G	4.2		1.1	9	ALASKA
14	11	43	51.2*	7.013	S	129.814	E	138		4.2		1.5	8	BANDA SEA
14	12	15	47.6	60.514	N	153.679	W	157	D	5.0		1.0	172	SOUTHERN ALASKA. Felt (IV) at Clam Gulch, Homer and Nikolchik. Felt (III) at Anchorage, Anchor Point and Kenai.
14	13	14	53.3*	18.160	N	94.615	W	22		4.1		0.9	15	GULF OF CAMPECHE
14	15	03	54.1*	6.149	S	130.911	E	33	N	4.5		0.7	8	BANDA SEA
14	16	14	51.9	42.235	N	21.370	E	10		4.5		1.2	53	YUGOSLAVIA. ML 4.4 (TTG). Felt (VI) in the Skopje area.
14	18	09	36.2*	44.898	N	146.363	E	140		4.6		1.1	38	KURIL ISLANDS
14	20	20	13.6*	1.954	S	99.832	E	33	N	4.1		1.0	7	SOUTHERN SUMATERA
14	21	05	32.8*	42.369	N	143.052	E	33	N	4.7	4.1	.1	20	HOKKAIDO, JAPAN REGION
14	21	12	08.2*	39.742	N	24.258	E	10	G			0.9	17	AEGEAN SEA. ML 3.9 (ATH).
14	22	20	14.6?	23.98	N	119.39	E	33	N			0.8	10	TAIWAN REGION
14	23	58	28.2?	36.62	N	71.33	E	33	N	4.0		1.8	7	AFGHANISTAN-USSR BORDER REGION
15	00	54	56.7?	58.60	N	153.55	W	33	N			0.4	7	KODIAK ISLAND REGION
15	01	37	45.0&	46.013	N	1.279	E	10	G			0.9	9	FRANCE. ML 2.4 (LDG).

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15   01 44 17.6   30.976 S  138.224 E   33 N  4.4          0.4   10  SOUTH AUSTRALIA
15   02 13 49.3    3.342 S  177.581 E   33 N  5.6 5.0      0.9  148  GILBERT ISLANDS REGION
   CMTS:  (HRV) B071582A    DATA:  GDSN              ;  L.P. BODY WAVES:  12S, 29C, T= 45;
   CENTROID LOCATION    OT  2:13:50.0 1.1;  LAT  3.37S 0.12;  LON 177.67E 0.16;  DEP  10.0 FIX;          HALF-DURATION  1.5
   MT: Scale 10**23 d-cm; MRR= 4.93 0.65; MTT=-5.81 0.90; MFF= 0.87 0.81; MRT= 4.73 2.64; MRF=-6.92 2.04; MTF= 1.80 0.66
   PRINCIPAL AXES:  (T) VAL= 10.60; PLG=55; AZM= 72;  (N) VAL= -0.97; PLG=20; AZM=310;  (P) VAL= -9.63;  PLG=27; AZM=209
   BEST DOUBLE COUPLE:       Mo= 1.0*10**24;    NP1:  STRIKE=259; DIP=25; SLIP=  36;   NP2:  STRIKE=136; DIP=75; SLIP= 111
15   02 33 31.4?  3.36  S  177.31  E   33 N  4.5          0.4    6  GILBERT ISLANDS REGION
15   05 48 29.5? 58.64  N  150.75  W   33 N  3.9          0.6    7  GULF OF ALASKA. ML 3.2 (PNR).
15   06 49 08.9* 29.840 N   50.672 E   33 N  4.9 3.6      1.1   30  SOUTHERN IRAN
15   07 33 23.2* 19.979 N  121.607 E   38     4.3          0.7   17  PHILIPPINE ISLANDS REGION
15   07 50 31.0* 24.679 S  177.109 W  126 D  5.1          1.4   18  SOUTH OF FIJI ISLANDS
15   16 31 55.6* 22.890 N  121.260 E   23                  0.2    6  TAIWAN REGION
15   16 38 16.6* 35.955 N  140.096 E   54                  0.2    6  NEAR EAST COAST OF HONSHU, JAPAN
15   17 15 55.4  37.402 N   20.336 E   31 D  4.6 3.8      1.2  113  IONIAN SEA. ML 4.4 (ATH).
15   19 16 17.3  20.316 S  177.684 W  532    5.2          0.9   80  FIJI ISLANDS REGION
15   22 56 13.3   3.393 S  177.536 E   33 N  5.2 4.6      0.8   67  GILBERT ISLANDS REGION
15   23 00 37.3?  4.56  S  145.89  E   10 G  3.8          1.9    6  NEAR N COAST OF PAPUA NEW GUINEA
16   00 48 55.1*  6.685 N   72.868 W  180    4.7          0.7   10  NORTHERN COLOMBIA
16   02 07 20.3* 33.824 S   66.585 W   33 N               1.5    5  SAN LUIS PROVINCE, ARGENTINA
16   03 00 01.3  59.663 S   25.982 W   33 N  4.8          1.0   15  SOUTH SANDWICH ISLANDS REGION
16   04 15 29.9* 30.715 N   77.031 E  103    4.2          1.3    8  NORTHERN INDIA
16   05 20 14.1? 2.96   S  177.23  E   33 N  4.6          1.0    8  GILBERT ISLANDS REGION
16   07 19 02.2  41.605 N   29.488 W   10 G  4.7 5.1      1.1   48  AZORES ISLANDS REGION
16   07 21 45.3  59.633 N   29.991 W   10 G  4.9 4.3      1.0   43  NORTH ATLANTIC OCEAN
16   11 12 16.3? 13.76  S  173.26  W   33 N  4.8          0.9   29  SAMOA ISLANDS REGION
16   14 33 40.7  21.412 S  178.837 W  547    5.4          0.9  189  FIJI ISLANDS REGION
   CMTS:  (HRV) B071682A    DATA:  GDSN              ;  L.P. BODY WAVES:  11S, 23C, T= 45;
   CENTROID LOCATION    OT 14:33:47.7 0.9;  LAT 20.99S 0.13;  LON 179.14W 0.12;  DEP 562.0 5.3;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR=-1.58 0.19; MTT= 0.93 0.32; MFF= 0.65 0.25; MRT=-1.59 0.25; MRF=-0.17 0.26; MTF=-1.47 0.27
   PRINCIPAL AXES:  (T) VAL=  2.57; PLG=16; AZM=216;  (N) VAL=  0.00; PLG=29; AZM=117;  (P) VAL= -2.57;  PLG=56; AZM=331
   BEST DOUBLE COUPLE:       Mo= 2.6*10**24;    NP1:  STRIKE=341; DIP=39; SLIP= -39;   NP2:  STRIKE=103; DIP=67; SLIP=-122
16   14 43 05.3* 29.547 S  177.717 W   33 N  5.2          1.5   12  KERMADEC ISLANDS
16   22 36 03.5   7.648 S  124.894 E  373    4.9          1.2   87  BANDA SEA
17   00 12 21.4? 52.57  N  163.75  W   33 N  4.6          1.2   10  SOUTH OF ALASKA
17   02 02 47.3? 49.96  N  179.97  E   33 N  4.4          0.8   12  ALEUTIAN ISLANDS REGION
17   05 03 07.7* 26.178 S   28.024 E    5 G               1.3    7  REPUBLIC OF SOUTH AFRICA
17   05 13 01.2   3.762 N   96.130 E   76     4.6          1.2   32  NORTHERN SUMATERA
17   06 40 28.7  10.084 S  161.491 E   96     5.0          1.2   33  SOLOMON ISLANDS
17   06 41 17.8% 46.949 N    0.538 W   10 G               1.0    6  FRANCE
17   08 08 06.3* 30.152 N   57.341 E   33 N  4.3          0.8   10  IRAN
17   09 35 34.4*  9.047 S  158.003 E   33 N  5.0          1.4   10  SOLOMON ISLANDS
17   10 46 47.9   6.171 S  148.287 E   69     5.2          1.1   56  NEW BRITAIN REGION
17   14 46 04.0  34.042 N  136.603 E  369     4.6          0.9   70  SOUTHERN HONSHU, JAPAN
17   16 04 38.2   2.133 N  126.643 E   75     4.6          1.3   13  MOLUCCA PASSAGE
17   18 04 26.8% 45.046 N    8.684 E   10 G               0.5    7  NORTHERN ITALY
17   18 24 57.1  38.847 N   22.097 E   25     4.3          1.3   52  GREECE. ML 4.0 (ATH).
17   18 32 09.7   3.250 S  177.618 E   33 N  5.4 4.4      0.9   92  GILBERT ISLANDS REGION
17   18 46 09.1* 28.143 S   63.518 E   10 G  5.0          1.0   14  ATLANTIC-INDIAN RISE
17   22 02 07.9  21.735 S  173.132 E   37     5.6 6.2      1.2  137  VANUATU ISLANDS REGION. Ms 6.7 (BRK), 6.1 (PAS).
   CMTS:  (HRV) B071782A    DATA:  GDSN              ;  L.P. BODY WAVES:  18S, 48C, T= 45;
   CENTROID LOCATION    OT 22: 2:14.5 0.3;  LAT 21.05S 0.03;  LON 172.95E 0.03;  DEP  10.1 FIX;          HALF-DURATION  4.5
   MT: Scale 10**25 d-cm; MRR= 0.03 0.05; MTT= 0.27 0.05; MFF=-0.30 0.06; MRT=-1.02 0.15; MRF=-0.98 0.17; MTF= 1.98 0.05
   PRINCIPAL AXES:  (T) VAL=  2.72; PLG=28; AZM=139;  (N) VAL= -0.71; PLG=62; AZM=325;  (P) VAL= -2.01;  PLG= 3; AZM=230
   BEST DOUBLE COUPLE:       Mo= 2.4*10**25;    NP1:  STRIKE=278; DIP=69; SLIP=  19;   NP2:  STRIKE=181; DIP=73; SLIP= 158
17   22 24 14.2   6.791 N   73.041 W  163 D  4.9          0.9   62  NORTHERN COLOMBIA. Felt at Bucaramanga, Medellin and
                                                                    Bogota.
18   08 15 37.2* 63.077 N  150.038 W   99                  0.2    7  CENTRAL ALASKA
18   10 16 41.4& 36.887 N  121.503 W    8 G                      13  CENTRAL CALIFORNIA. <BRK>. ML 3.5 (BRK). Felt at
                                                                    Hollister.
18   11 25 50.9& 33.833 N  117.833 W    8 G                       9  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS). Felt (IV)
                                                                    at Santa Ana. Also felt in the Anaheim area.
18   11 36 37.4*  4.870 S  143.315 E   33 N  3.1          1.3    6  PAPUA NEW GUINEA
18   13 41 54.8  39.236 N   25.405 E   10 G  4.2 3.9      1.3   64  AEGEAN SEA. ML 4.3 (ATH).
18   14 22 45.0  24.387 N  122.112 E   10     4.7          0.9   21  TAIWAN REGION
18   15 20 52.6   8.699 S  159.246 E  181     4.6          1.1   10  SOLOMON ISLANDS
18   15 46 17.2  23.339 N   70.611 E   33 N  4.8          1.1   62  INDIA. Felt in the Jamnagar, Rajkot, and Surendranagar
                                                                    areas.
18   17 47 27.8* 51.943 N  170.393 W   33 N  4.7 4.0      1.0   63  FOX ISLANDS, ALEUTIAN ISLANDS
18   21 17 27.5*  6.009 S  146.222 E   33                  0.1    5  EAST PAPUA NEW GUINEA REGION
18   22 45 22.8* 39.958 N  122.607 W   10 G               1.1   10  NORTHERN CALIFORNIA. ML 3.6 (BRK).
18   22 47 44.5* 33.098 N  141.291 E   33 N  4.7          1.0   11  OFF EAST COAST OF HONSHU, JAPAN. Felt (II JMA) on
                                                                    Hachijojima.
18   23 48 23.4? 36.01  N   70.88  E  282     4.3          0.8   10  HINDU KUSH REGION
19   03 00 37.8* 51.158 N  130.109 W   10 G  4.6 4.7      0.8   41  QUEEN CHARLOTTE ISLANDS REGION
19   04 55 36.5  35.531 N  139.983 E   76     4.7          1.1   39  NEAR S. COAST OF HONSHU, JAPAN. Felt at Tokyo.
19   07 18 41.5? 51.10  N  129.63  W   10 G  4.0          1.4    9  QUEEN CHARLOTTE ISLANDS REGION
19   07 19 23.9  33.537 N   46.073 E   49     4.9 4.0      1.1   71  IRAN-IRAQ BORDER REGION. Felt at Ilam, Iran.
19   09 00 06.1* 62.532 N   47.813 E    0 G  4.4          0.9   21  EUROPEAN USSR
19   10 18 58.6* 15.677 S  176.242 W   33 N  4.9 4.9      1.1   33  FIJI ISLANDS REGION
19   14 53 55.9* 56.610 S  141.764 W   10 G  5.3 5.0      0.8    9  SOUTH PACIFIC CORDILLERA
19   15 25 17.9* 40.823 N   22.815 E   10 G               0.8    9  GREECE
19   16 28 52.1* 33.389 N   57.013 E   33 N               0.9    8  IRAN
19   17 22 28.5  51.913 N  170.545 W   33 N  5.0 4.3      1.0   90  FOX ISLANDS, ALEUTIAN ISLANDS
19   17 40 09.0* 50.993 N  130.047 W   10 G  4.3          0.9   16  VANCOUVER ISLAND REGION
19   17 43 28.3  33.414 S   56.934 E   10 G  4.7          1.3   19  ATLANTIC-INDIAN RISE
19   23 52 55.2  23.949 S   66.738 W  207     5.2          1.2  138  JUJUY PROVINCE, ARGENTINA
20   02 49 53.8  20.403 S  177.412 W  392     4.6          0.8   22  FIJI ISLANDS REGION
20   05 00 54.1  72.650 N   71.611 W   10 G  4.6 4.6      0.8   43  BAFFIN BAY
20   07 12 53.5  26.495 N   99.963 E   55     4.4          1.3   12  YUNNAN PROVINCE, CHINA
20   10 55 40.7  46.278 N   12.862 E   10 G               0.9   36  NORTHERN ITALY. ML 4.2 (GRF), 3.4 (TRI).
20   11 20 43.4*  2.158 N   98.052 W   10 G  4.9 4.0      1.0   14  WEST OF GALAPAGOS ISLANDS
20   13 35 11.4*  6.454 S  146.650 E  112     5.4          1.1    8  EAST PAPUA NEW GUINEA REGION
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20	14	18	40.9?	52.23	N	168.72	W	33	N	4.4		0.8	8	FOX ISLANDS, ALEUTIAN ISLANDS
20	14	26	38.6*	52.259	N	168.768	W	33	N	5.0	4.5	1.0	94	FOX ISLANDS, ALEUTIAN ISLANDS
20	15	11	47.3	54.550	N	161.472	E	32	D	5.5	4.3	1.1	176	NEAR EAST COAST OF KAMCHATKA
20	15	56	35.0	6.809	S	129.617	E	146		5.6		1.0	111	BANDA SEA
20	18	40	14.8*	12.234	N	144.340	E	33	N	4.6		0.5	8	SOUTH OF MARIANA ISLANDS
20	19	06	26.5*	6.875	N	73.148	W	157				0.3	7	NORTHERN COLOMBIA
20	19	59	56.9	52.098	N	174.182	E	44		4.8	4.1	1.0	50	NEAR ISLANDS, ALEUTIAN ISLANDS
20	22	31	30.6	52.446	S	140.463	E	10	G	5.1	4.6	1.1	28	WEST OF MACQUARIE ISLAND
20	22	49	04.3*	6.496	S	146.232	E	33	N			1.1	6	EAST PAPUA NEW GUINEA REGION
20	23	07	46.1*	35.989	N	44.236	E	33	N			1.2	5	IRAQ
20	23	27	25.7*	38.249	N	23.320	E	10	G			0.5	9	GREECE. ML 2.9 (ATH).
21	01	51	00.6*	51.903	N	16.886	E	10	G			0.6	9	POLAND
21	02	07	18.6*	20.911	N	122.092	E	163		3.7		0.1	7	PHILIPPINE ISLANDS REGION
21	03	19	10.1	31.850	N	131.910	E	33	N	4.4		1.1	15	KYUSHU, JAPAN
21	03	26	40.9?	17.57	N	61.76	W	33	N			1.0	5	LEEWARD ISLANDS
21	04	18	46.1*	13.803	N	145.026	E	129		4.6		1.1	13	MARIANA ISLANDS. Felt (III) on Guam.
21	04	29	28.9*	40.108	N	25.586	E	10	G			1.0	5	AEGEAN SEA
21	05	31	21.2*	3.611	N	128.581	E	33	N	4.7		1.3	5	NORTH OF HALMAHERA
21	05	35	52.3*	31.858	S	69.052	W	122				1.3	7	SAN JUAN PROVINCE, ARGENTINA
21	06	05	05.4	22.018	S	179.471	W	602		5.1		1.0	39	SOUTH OF FIJI ISLANDS
21	06	20	2e.3	34.405	N	70.410	E	33	N	4.6	3.7	1.5	10	AFGHANISTAN
21	09	28	18.1e	35.417	N	119.383	W	6	G				11	CENTRAL CALIFORNIA. <PAS-2>. ML 3.2 (PAS).
21	09	48	19.9?	41.670	N	28.124	E	10	G			0.7	6	TURKEY
21	11	18	54.7*	3.219	S	177.413	E	33	N	4.9		0.8	22	GILBERT ISLANDS REGION
21	12	54	50.7*	39.968	N	27.149	E	10	G			1.0	7	TURKEY
21	14	19	43.5*	38.858	N	20.883	E	10	G	3.8		1.0	21	GREECE. ML 3.6 (ATH).
21	14	25	16.6*	38.265	N	20.065	E	10	G	4.2		1.1	6	GREECE. ML 3.5 (ATH).
21	15	59	18.1	12.794	N	88.111	W	67		4.8		1.2	26	OFF COAST OF CENTRAL AMERICA. Felt (III) at San Salvador.
21	16	53	23.7	13.527	N	145.576	E	63		4.9		1.1	47	MARIANA ISLANDS
21	21	01	55.6*	12.019	S	119.956	E	33	N	3.0		0.5	6	SOUTH OF SUMBA ISLAND
21	21	23	49.1	37.279	N	141.230	E	75		4.5		0.9	26	NEAR EAST COAST OF HONSHU, JAPAN. Felt (II JMA) at Fukushima and Shirakawa, (I JMA) at Onahama, Utsunomiya and Mito.
21	22	11	03.5	13.215	S	75.093	W	99		5.1		0.6	62	PERU
21	22	36	23.0	45.311	N	151.012	E	33	N	4.9	4.0	0.8	46	KURIL ISLANDS
21	22	55	29.1?	16.00	S	173.04	W	33	N	4.8		1.4	12	TONGA ISLANDS
21	23	29	33.4*	36.101	N	139.794	E	68		4.3		0.9	11	HONSHU, JAPAN
21	23	37	34.1*	54.952	N	156.900	W	33	N	5.0	4.4	1.2	99	SOUTH OF ALASKA
21	23	49	08.5?	55.00	N	156.99	W	33	N	4.8		0.7	9	SOUTH OF ALASKA
22	00	23	13.5*	41.452	N	142.489	E	62		4.6		0.8	12	HOKKAIDO, JAPAN REGION
22	01	40	06.5	1.798	S	120.234	E	119		4.2		0.9	13	SULAWESI
22	01	50	13.8*	23.019	N	121.462	E	33	N			0.4	5	TAIWAN
22	02	00	09.5*	29.547	N	141.261	E	48		4.3		0.6	9	SOUTH OF HONSHU, JAPAN
22	03	04	22.4*	20.219	S	177.005	W	302		4.5		0.9	30	FIJI ISLANDS REGION
22	03	48	17.2?	51.58	N	170.08	W	33	N	4.5		1.3	9	FOX ISLANDS, ALEUTIAN ISLANDS
22	05	09	14.4*	3.289	S	177.508	E	33	N	5.0		1.1	31	GILBERT ISLANDS REGION
22	05	18	12.1*	3.399	S	177.620	E	35	N	4.9		0.9	23	GILBERT ISLANDS REGION
22	06	22	42.6	36.166	N	141.685	E	56		4.8		1.0	31	NEAR EAST COAST OF HONSHU, JAPAN
22	08	51	11.4	49.634	N	127.879	W	10	G	4.7	3.9	1.1	51	VANCOUVER ISLAND REGION
22	09	22	57.9*	0.495	S	29.648	E	10	G			1.3	7	ZAIRE REPUBLIC
22	10	57	56.2	36.157	N	141.589	E	54		5.0	4.6	1.2	84	NEAR EAST COAST OF HONSHU, JAPAN
22	11	56	00.5	3.196	S	177.515	E	27	D	5.0		0.9	51	GILBERT ISLANDS REGION
22	12	38	32.2	39.066	N	25.203	E	10	G	4.3	3.9	1.0	65	AEGEAN SEA. ML 4.2 (ATH).
22	12	41	07.2*	17.782	S	174.995	W	33	N	4.7		1.4	19	TONGA ISLANDS
22	13	09	57.8*	39.145	N	25.022	E	10	G			0.7	7	AEGEAN SEA. ML 3.0 (ATH).
22	13	52	26.1*	40.107	N	24.825	E	16				0.9	20	AEGEAN SEA. ML 3.6 (ATH).
22	14	34	02.1*	52.415	N	169.604	W	33	N	4.9	4.0	0.8	52	FOX ISLANDS, ALEUTIAN ISLANDS
22	16	01	00.3	36.087	N	141.610	E	63		4.6		0.9	15	NEAR EAST COAST OF HONSHU, JAPAN
22	16	05	19.1*	36.576	N	141.812	E	33	N	4.0		1.4	6	NEAR EAST COAST OF HONSHU, JAPAN
22	16	54	43.6?	6.08	N	133.01	E	33	N			1.2	7	WEST CAROLINE ISLANDS
22	17	22	56.3*	36.336	N	142.160	E	33	N	4.4		0.9	7	OFF EAST COAST OF HONSHU, JAPAN
22	17	32	32.6	36.166	N	141.806	E	32	D	5.3	4.9	1.0	146	NEAR EAST COAST OF HONSHU, JAPAN. Felt (II JMA) at Choshi and Fukushima, (I JMA) at Mito, Tokyo and Tateyama.
22	17	45	06.2	51.115	S	161.189	E	10	G	5.2	5.2	1.2	33	NORTH OF MACQUARIE ISLAND
22	17	54	34.3*	36.175	N	141.823	E	33	N	3.9		0.7	8	NEAR EAST COAST OF HONSHU, JAPAN
22	18	05	58.7	22.805	N	121.565	E	120		4.6		1.2	40	TAIWAN REGION
22	18	17	18.0	36.166	N	141.777	E	33	N	4.9	4.9	1.0	67	NEAR EAST COAST OF HONSHU, JAPAN
22	18	56	26.8?	39.759	N	29.151	E	10	G			1.4	6	TURKEY
22	19	57	23.4	39.071	N	25.248	E	23		4.2		1.1	34	AEGEAN SEA. ML 3.8 (ATH).
22	20	24	11.8	36.216	N	141.609	E	54		4.7	4.1	1.1	42	NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at Mito and Shirakawa.
22	20	48	50.0	12.814	N	123.644	E	18		4.3		1.3	23	LUZON, PHILIPPINE ISLANDS
22	21	22	48.2?	30.05	S	70.83	W	140				1.4	6	CHILE-ARGENTINA BORDER REGION
22	21	26	27.6?	39.45	N	145.11	W	33	N			0.2	5	GULF OF ALASKA. ML 3.7 (PMR).
22	23	46	14.9*	14.148	N	143.904	E	33	N	4.7		0.8	6	MARIANA ISLANDS REGION
23	00	38	48.2	39.054	N	25.242	E	26		4.5		1.0	96	AEGEAN SEA. ML 4.3 (ATH).
23	00	52	16.7*	39.022	N	25.216	E	10	G			1.1	6	AEGEAN SEA. ML 3.0 (ATH).
23	00	56	30.5	7.763	S	108.032	E	90		4.7		1.0	37	JAVA
23	01	16	46.6*	16.881	S	174.034	W	143	D	4.8		1.4	49	TONGA ISLANDS
23	01	32	10.8*	36.200	N	140.233	E	33	N			0.6	6	NEAR EAST COAST OF HONSHU, JAPAN
23	02	53	28.9	1.053	N	27.912	W	10	G	5.2	5.1	0.9	121	CENTRAL MID-ATLANTIC RIDGE
23	03	17	22.1	6.485	S	147.716	E	70		4.3		1.2	19	EAST PAPUA NEW GUINEA REGION
23	04	44	18.0	13.790	N	124.478	E	60		4.7		1.0	42	LUZON, PHILIPPINE ISLANDS
23	05	02	23.3*	38.813	N	26.081	E	22				0.4	8	AEGEAN SEA
23	07	06	28.2*	40.192	N	25.013	E	10	G			1.5	9	AEGEAN SEA
23	09	21	08.1?	48.02	N	154.51	E	33	N	4.3		0.7	6	KURIL ISLANDS
23	11	25	01.3	36.121	N	141.759	E	32	D	5.1	4.6	0.9	89	NEAR EAST COAST OF HONSHU, JAPAN
23	11	45	11.3*	39.398	S	15.982	W	10	G	5.3	5.1	0.6	21	TRISTAN DA CUNHA REGION
23	13	12	44.2*	36.571	N	141.643	E	33	N	4.3		1.5	10	NEAR EAST COAST OF HONSHU, JAPAN
23	13	18	23.6	36.570	N	141.435	E	33	N	4.7		1.1	20	NEAR EAST COAST OF HONSHU, JAPAN
23	13	51	42.3	10.796	S	111.715	E	34	D	5.2		1.2	94	SOUTH OF JAVA

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23   14 06 21.7* 42.153 N  142.449 E   75     4.4        0.6    8  HOKKAIDO, JAPAN  REGION
23   14 23 53.5  36.194 N  141.702 E   37     6.2 6.8    1.0  271  NEAR EAST COAST OF HONSHU, JAPAN. Ms 6.3 (PAS). Felt
                                                                    (IV JMA) at Mito and (III JMA) at Tokyo, Yokohama and
                                                                    Sendai. Also felt at Misawa. [FS].

          FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE= 14;  DIP=78;  SLIP= 90.   NP2:  STRIKE=194;  DIP=12;  SLIP= 90
          PRINCIPAL AXES:   (T)  PLG=57;  AZM=284.   (P)  PLG=33;  AZM=104
                                                                    Moderately well controlled reverse fault type
                                                                    mechanism. NP2 designated as the fault plane.
     MOMENT TENSOR SOLUTION.   NO OF STA  12.    SCALE 10**26 D-CM
     PRINCIPAL AXES:  (T) VAL=  4.11; PLG=70; AZM=352;  (N) VAL=  2.46; PLG=14; AZM=221;  (P) VAL= -6.57;  PLG=15; AZM=127
     BEST DOUBLE COUPLE:       Mo= 5.3*10**26;    NP1:  STRIKE=198; DIP=33; SLIP= 64;   NP2:  STRIKE= 49; DIP=61; SLIP= 106
     CMTS:  (HRV) C072382A   DATA:  GDSN                ;  L.P. BODY WAVES:  18S, 49C, T= 45;   MANTLE WAVES:  10S, 26C, T=135
     CENTROID LOCATION    OT 14:24: 9.7 0.1;  LAT 35.98N 0.02;  LON 141.91E 0.03;  DEP  27.0 1.2;          HALF-DURATION 10.0
     MT: Scale 10**26 d-cm; MRR= 1.79 0.03; MTT=-0.32 0.03; MFF=-1.48 0.03; MRT= 1.60 0.11; MRF= 3.10 0.17; MTF=-0.69 0.03
     PRINCIPAL AXES:  (T) VAL=  3.92; PLG=59; AZM=298;  (N) VAL=  0.01; PLG= 1; AZM=207;  (P) VAL= -3.92;  PLG=31; AZM=116
     BEST DOUBLE COUPLE:       Mo= 3.9*10**26;    NP1:  STRIKE=203; DIP=14; SLIP= 86;   NP2:  STRIKE= 27; DIP=76; SLIP= 91
23   14 50 45.4  36.292 N  141.754 E   33 M  4.9          1.3   35  NEAR EAST COAST OF HONSHU, JAPAN
23   14 55 02.1* 36.567 N  141.708 E   33 N  4.7          1.1   11  NEAR EAST COAST OF HONSHU, JAPAN
23   15 05 07.8  36.156 N  141.727 E   50     5.1         1.2   76  NEAR EAST COAST OF HONSHU, JAPAN
23   15 29 32.8* 36.500 N  141.273 E   33 N  4.3          1.0    8  NEAR EAST COAST OF HONSHU, JAPAN
23   15 38 10.4  36.330 N  141.162 E   58     5.0         1.0   68  NEAR EAST COAST OF HONSHU, JAPAN
23   16 08 08.2? 36.31  N  141.31  E   33 M                1.0    6  NEAR EAST COAST OF HONSHU, JAPAN
23   16 26 07.7* 2.954 N  126.650 E   70     5.0         1.2   15  MOLUCCA PASSAGE
23   16 52 03.1* 36.182 N  141.695 E   33 N                0.9    6  NEAR EAST COAST OF HONSHU, JAPAN
23   16 55 02.4* 36.161 N  140.328 E   33 N                1.3    7  NEAR EAST COAST OF HONSHU, JAPAN
23   16 57 19.2* 36.308 N  141.819 E   33 N  4.3          1.3    9  NEAR EAST COAST OF HONSHU, JAPAN
23   17 54 02.4  36.067 N  141.725 E   31 D  5.7 6.2     1.0  245  NEAR EAST COAST OF HONSHU, JAPAN
     CMTS:  (HRV) B072382B   DATA:  GDSN                ;  L.P. BODY WAVES:  14S, 37C, T= 45;
     CENTROID LOCATION    OT 17:54: 5.8 0.5;  LAT 35.76N 0.08;  LON 141.90E 0.11;  DEP  21.8 7.6;          HALF-DURATION  3.0
     MT: Scale 10**25 d-cm; MRR= 0.51 0.08; MTT=-0.29 0.08; MFF=-0.22 0.10; MRT= 0.84 0.36, MRF= 1.12 0.49; MTF=-0.18 0.08
     PRINCIPAL AXES:  (T) VAL=  1.52; PLG=54; AZM=304;  (N) VAL= -0.09; PLG= 3; AZM= 38;  (P) VAL= -1.42;  PLG=36; AZM=131
     BEST DOUBLE COUPLE:       Mo= 1.5*10**25;    NP1:  STRIKE=237; DIP=10; SLIP= 110;   NP2:  STRIKE= 38; DIP=81; SLIP= 87
23   18 03 08.7  36.014 N  141.930 E   33 N  5.0          0.8   16  NEAR EAST COAST OF HONSHU, JAPAN
23   18 10 13.7? 36.20  N  141.93  E   33 N                0.9    6  NEAR EAST COAST OF HONSHU, JAPAN
23   18 22 55.6? 36.19  N  140.54  E   33 N                0.5    6  NEAR EAST COAST OF HONSHU, JAPAN
23   18 36 56.8? 36.14  N  141.27  E   33 N                0.6    6  NEAR EAST COAST OF HONSHU, JAPAN
23   18 58 42.3? 36.28  N  141.19  E   33 N                0.7    6  NEAR EAST COAST OF HONSHU, JAPAN
23   19 57 34.6? 36.32  N  141.09  E   33 N                0.8    6  NEAR EAST COAST OF HONSHU, JAPAN
23   20 08 25.6* 36.337 N  141.357 E   33 N  3.8          0.8    7  NEAR EAST COAST OF HONSHU, JAPAN
23   20 43 35.1* 36.108 N  140.767 E   33 N                0.6    5  NEAR EAST COAST OF HONSHU, JAPAN
23   21 09 16.7& 34.533 N  116.500 W    8 G                     10  SOUTHERN CALIFORNIA. <PAS-F>. ML 3 0 (PAS).
23   21 25 06.7? 36.20  N  141.31  E   33 N                0.9    6  NEAR EAST COAST OF HONSHU, JAPAN
23   22 08 03.8? 56.60  N  162.99  E   33 N  4.4          1.2    8  NEAR EAST COAST OF KAMCHATKA
24   00 02 10.0? 36.15  N  141.31  E   33 N                0.8    6  NEAR EAST COAST OF HONSHU, JAPAN
24   02 06 41.0* 16.466 N   97.953 W   33 N  3.6          1.1   17  OAXACA, MEXICO
24   02 25 39.3*  4.325 S  148.630 E  549     5.1         0.6   17  BISMARCK SEA
24   02 51 41.5* 30.036 N   96.482 E   33 N  4.5          1.5   11  TIBET
24   03 39 43.4* 36.262 N  140.576 E   33 N                0.7    6  NEAR EAST COAST OF HONSHU, JAPAN
24   03 51 41.6*  1.220 N   30.107 E   10 G  4.5          0.9    8  UGANDA
24   04 35 59.3  31.552 S  179.783 E  428     4.9         1.1   33  KERMADEC ISLANDS REGION
24   05 09 21.6  37.209 N  141.553 E   39 D  4.9 4.0      1.1   48  NEAR EAST COAST OF HONSHU, JAPAN
24   06 16 28.5* 27.985 S   67.533 W  159                 0.9    6  CATAMARCA PROVINCE, ARGENTINA
24   07 31 52.1  18.268 N   99.945 W   68     4.3         1.1   34  GUERRERO, MEXICO. Felt at Ometepec.
24   08 10 51.0? 36.18  N  141.55  E   33 N                0.9    6  NEAR EAST COAST OF HONSHU, JAPAN
24   09 17 27.5  52.880 S   20.862 E   10 G  5.2 5.0      1.3   37  SOUTH OF AFRICA
24   09 49 35.1  36.041 N  141.727 E   49     4.8 4.5     0.8   46  NEAR EAST COAST OF HONSHU, JAPAN
24   10 03 23.8% 16.334 N   60.909 W   51                 0.2    9  LEEWARD ISLANDS
24   11 35 27.2? 2.87  S  177.21  E   33 N  4.8          1.2   15  GILBERT ISLANDS REGION
24   11 43 38.2* 5.690 N   79.913 W   21 D  4.9 4.1      1.2   60  SOUTH OF PANAMA
24   12 33 56.2  5.862 S  151.284 E   76     4.6         1.3   21  NEW BRITAIN REGION
24   13 27 26.2* 36.054 N  141.834 E   33 N  4.5 4.0      1.1   10  NEAR EAST COAST OF HONSHU, JAPAN
24   14 38 46.0? 6.45  S  147.29  E  114                 1.9    5  EAST PAPUA NEW GUINEA REGION
24   14 44 19.7? 22.56  S  171.61  E   33 N                0.8    5  LOYALTY ISLANDS REGION
24   15 51 39.5* 36.286 N  141.260 E   33 N                1.1    7  NEAR EAST COAST OF HONSHU, JAPAN
24   18 45 38.5  21.006 S  176.952 W  295     4.9         1.1   72  FIJI ISLANDS REGION
24   18 57 38.7* 15.265 N   93.942 W   61     4.5         1.0   27  NEAR COAST OF CHIAPAS, MEXICO
24   21 30 23.1  36.518 N  141.317 E   33 N  4.7 4.6      1.1   36  NEAR EAST COAST OF HONSHU, JAPAN
24   22 53 49.9* 36.484 N  141.466 E   33 N  4.4          0.8   10  NEAR EAST COAST OF HONSHU, JAPAN
25   00 14 05.2*  5.550 S  152.606 E   38                 1.1   10  NEW BRITAIN REGION
25   01 23 38.9* 11.998 S   74.165 W   33 N                1.1    6  PERU
25   01 32 06.3? 13.02  N   89.98  W   33 M  4.2 3.4      0.5   12  EL SALVADOR
25   02 54 57.5% 39.046 N   25.247 E   10 G                0.6    5  AEGEAN SEA
25   03 17 28.7* 24.414 N  121.755 E   10 G                0.8    7  TAIWAN
25   04 06 53.7* 12.730 S   81.028 W   33 N                1.3    6  OFF COAST OF PERU
25   04 21 10.0? 51.06  N   15.76  E   10 G                1.5    6  POLAND
25   04 48 20.2  36.159 N  141.706 E   49     4.9 4.5     1.1   65  NEAR EAST COAST OF HONSHU, JAPAN
25   04 57 00.1*  0.052 N  123.691 E  156     4.5         1.4   16  MINAHASSA PENINSULA
25   05 39 01.8  52.040 N  178.444 E  106     4.5         1.0   33  RAT ISLANDS, ALEUTIAN ISLANDS
25   07 10 40.3* 13.087 S   76.880 W   33 N                1.4    6  NEAR COAST OF PERU
25   07 30 09.6? 71.83  N   74.61  W   33 N  4.6          1.6    6  BAFFIN ISLAND REGION
25   08 01 28.6  36.314 N  141.643 E   45 D  5.5 5.5      1.2  215  NEAR EAST COAST OF HONSHU, JAPAN. Felt in eastern
                                                                    Honshu.
     CMTS:  (HRV) B072582A   DATA:  GDSN                ;  L.P. BODY WAVES:  9S, 24C, T= 45;
     CENTROID LOCATION    OT  8: 1:34.8 0.3;  LAT 35.75N 0.04;  LON 142.47E 0.07;  DEP  10.0 FIX;          HALF-DURATION  3.0
     MT: Scale 10**24 d-cm; MRR= 2.49 0.10; MTT=-0.28 0.10; MFF=-2.22 0.14; MRT= 1.57 0.26; MRF= 2.38 0.38; MTF=-1.13 0.10
     PRINCIPAL AXES:  (T) VAL=  3.77; PLG=66; AZM=311;  (N) VAL=  0.20; PLG= 5; AZM=209;  (P) VAL= -3.97;  PLG=24; AZM=117
     BEST DOUBLE COUPLE:       Mo= 3.9*10**24;    NP1:  STRIKE=197; DIP=22; SLIP= 76;   NP2:  STRIKE= 31; DIP=69; SLIP= 95
25   08 14 11.1  16.123 S  167.916 E  191     5.2         1.4   40  VANUATU ISLANDS
25   09 10 41.3  36.213 N  142.033 E   36 D  5.0 4.8      1.0   86  OFF EAST COAST OF HONSHU, JAPAN. Felt in eastern
                                                                    Honshu.
25   09 14 14.1* 36.448 N  141.833 E   33 N  4.9          1.2   25  NEAR EAST COAST OF HONSHU, JAPAN
25   09 27 55.3? 36.26  N  141.46  E   33 N                0.8    6  NEAR EAST COAST OF HONSHU, JAPAN
25   11 46 55.8* 36.873 N   71.185 E   33 N  4.4          0.8    5  AFGHANISTAN-USSR BORDER REGION
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25	13	22	14.4*	36.297	N	141.905	E	33	N	4.0	0.8	7	NEAR EAST COAST OF HONSHU, JAPAN
25	14	57	05.2*	16.267	N	98.196	W	33	N		1.4	10	NEAR COAST OF GUERRERO, MEXICO
25	15	16	06.2*	36.157	N	141.223	E	33	N	4.0	0.6	8	NEAR EAST COAST OF HONSHU, JAPAN
25	16	53	32.0*	3.316	S	177.519	E	33	N	4.9	0.7	17	GILBERT ISLANDS REGION
25	18	01	58.1	21.864	S	138.963	W	0	G	5.6	0.9	103	TUAMOTU ARCHIPELAGO REGION
25	19	22	35.2	3.369	S	80.591	W	42	D	4.7	0.9	18	PERU-ECUADOR BORDER REGION
25	20	25	59.0*	8.081	S	121.476	E	200			1.1	5	FLORES ISLAND REGION
25	20	35	09.9?	45.55	N	148.60	E	33	N	4.3	0.5	18	KURIL ISLANDS
25	20	36	47.9*	31.577	S	67.801	W	33	N		0.7	6	SAN JUAN PROVINCE, ARGENTINA
25	22	41	18.7?	36.16	N	140.87	E	33	N		0.6	6	NEAR EAST COAST OF HONSHU, JAPAN
26	03	43	26.0*	52.803	S	20.944	E	10	G	5.0	1.1	21	SOUTH OF AFRICA
26	04	37	13.5*	19.989	S	173.669	W	33	N	5.3	1.4	22	TONGA ISLANDS
26	05	06	51.4*	62.363	N	147.748	W	57		4.1	1.2	16	CENTRAL ALASKA. Felt at Palmer.
26	06	02	40.3*	27.261	S	26.724	E	5	G		1.5	8	REPUBLIC OF SOUTH AFRICA
26	07	43	55.7*	23.148	N	120.869	E	10	G		0.6	5	TAIWAN
26	08	28	04.9*	38.220	N	23.115	E	12		4.6	1.2	14	GREECE. ML 3.8 (ATH).
26	08	42	13.5*	33.238	N	23.441	E	33	N		1.0	6	GREECE. ML 3.3 (ATH).
26	09	32	36.0*	38.155	N	23.256	E	33	N	3.9	1.2	7	GREECE. ML 3.8 (ATH).
26	10	32	15.1*	17.524	S	178.589	W	544		4.5	1.5	12	FIJI ISLANDS REGION
26	10	36	58.6	13.365	N	89.064	W	67	D	5.1	1.2	97	EL SALVADOR
26	13	05	49.0*	43.914	N	128.375	W	10	G	4.8 4.5	0.8	49	OFF COAST OF OREGON
26	14	29	49.4*	38.775	N	25.038	E	10	G		0.9	8	AEGEAN SEA. ML 3.1 (ATH).
26	14	43	25.8	3.196	S	177.645	E	33	N	5.2	0.7	53	GILBERT ISLANDS REGION
26	14	55	18.7?	44.03	N	128.48	W	10	G	4.3 3.7	0.6	12	OFF COAST OF OREGON
26	15	07	29.5	44.252	N	10.884	E	33	N		0.9	38	NORTHERN ITALY. ML 3.7 (TRI), 4.2 (EBA). Felt in the Bologna area.
26	17	17	07.1*	36.865	N	23.728	E	108		4.3	0.7	40	SOUTHERN GREECE
26	19	10	19.7*	26.207	S	28.343	E	5	G		1.0	5	REPUBLIC OF SOUTH AFRICA
27	04	14	16.1	40.160	N	19.425	E	21		3.2	1.1	39	ALBANIA. ML 4.4 (TRI), 4.3 (ATH).
27	04	21	14.8*	55.679	S	27.796	W	33	N	5.2	1.1	10	SOUTH SANDWICH ISLANDS REGION
27	04	49	59.7*	43.939	N	128.332	W	10	G	4.8 5.1	0.9	67	OFF COAST OF OREGON
27	04	51	44.1*	43.936	N	128.382	W	10	G	5.0	0.8	60	OFF COAST OF OREGON
27	06	02	03.9*	43.946	N	128.360	W	10	G	4.9 4.5	0.9	52	OFF COAST OF OREGON
27	06	16	55.2*	43.958	N	128.175	W	10	G	5.1 5.1	1.1	96	OFF COAST OF OREGON
27	06	22	58.4*	43.885	N	128.438	W	10	G	5.2 4.8	1.0	100	OFF COAST OF OREGON
27	06	46	13.7?	44.32	N	128.87	W	10	G	4.1 3.8	1.5	13	OFF COAST OF OREGON
27	06	54	43.8*	14.606	N	87.853	W	33	N	4.9	0.9	34	HONDURAS
27	07	19	45.9*	15.800	N	99.211	W	39		4.2 3.5	1.0	20	OFF COAST OF GUERRERO, MEXICO
27	07	22	12.6*	43.957	N	128.222	W	10	G	4.4	0.9	25	OFF COAST OF OREGON
27	08	16	05.4*	51.296	N	15.584	E	10	G		1.6	8	POLAND
27	08	38	46.8?	40.365	N	28.884	E	10	G		0.6	6	TURKEY
27	09	02	36.0*	43.888	N	128.362	W	10	G	4.5 4.2	1.0	31	OFF COAST OF OREGON
27	10	19	14.1?	0.10	L	92.16	W	10	G	4.4 4.2	1.5	5	GALAPAGOS ISLANDS REGION
27	10	23	14.3	40.395	N	28.977	E	11		4.2 3.4	1.2	57	TURKEY. ML 4.3 (ATH). Felt in the Istanbul area.
27	11	27	17.9	1.254	N	90.696	W	10	G	5.2 5.0	1.1	57	GALAPAGOS ISLANDS REGION
27	11	30	13.2*	36.492	N	141.912	E	33	N	4.5	1.1	8	NEAR EAST COAST OF HONSHU, JAPAN
27	12	34	51.8*	52.840	N	176.410	W	228		4.6	1.3	43	ANDREANOF ISLANDS, ALEUTIAN IS.
27	13	50	04.6*	17.419	S	173.046	W	33	N	4.8	1.5	11	TONGA ISLANDS
27	17	23	17.9?	34.992	N	115.047	E	33	N		0.5	6	EASTERN CHINA
27	17	40	14.3	6.444	S	143.261	E	31		4.4	1.3	19	PAPUA NEW GUINEA
27	18	50	33.4?	29.69	N	58.01	E	33	N	4.3	1.3	6	SOUTHERN IRAN
27	19	05	37.0*	59.300	S	27.121	W	143		4.4	0.4	7	SOUTH SANDWICH ISLANDS REGION
27	19	34	32.4	3.589	N	120.481	E	26	D	5.3 5.7	1.3	65	NORTH OF HALMAHERA

CMTS: (HRV) B072782A DATA: CDSN ; L.P. BODY WAVES: 12S, 34C, T= 45;
CENTROID LOCATION OT 19:34:36.4 0.3; LAT 3.63N 0.04; LON 128.87E 0.03; DEP 10.9 FIX; HALF-DURATION 3.0
MT: Scale 10**24 d-cm; MRR= 4.80 0.14; MTT= 0.27 0.17; MFF=-5.07 0.18; MRT= 0.16 0.37; MRF= 3.81 0.40; MTF= 1.89 0.15
PRINCIPAL AXES: (T) VAL= 6.20; PLG=69; AZM=291; (N) VAL= 0.60; PLG=12; AZM=169; (P) VAL= -6.80; PLG=17; AZM= 75
BEST DOUBLE COUPLE: Mo= 6.5*10**24; NP1: STRIKE=148; DIP=29; SLIP= 66; NP2: STRIKE=355; DIP=63; SLIP= 103

27	19	53	58.0	3.553	N	128.728	E	33	N	4.6	1.4	17	NORTH OF HALMAHERA
27	21	26	35.8*	52.384	N	106.947	E	33	N	4.7	1.0	17	LAKE BAIKAL REGION. Felt (V) in the Shigayevo-Kudara-Kabansk area and (IV) at Tyrgana and Irkutsk.
27	21	45	00.8?	40.375	N	28.920	E	10	G		0.7	6	TURKEY
27	21	52	39.9*	3.701	N	128.686	E	33	N	4.4	1.1	8	NORTH OF HALMAHERA
28	00	59	59.7?	37.52	N	21.45	E	33	N	3.5	0.9	6	SOUTHERN GREECE. ML 3.4 (ATH).
28	01	51	06.8*	36.224	N	139.716	E	33	N		0.9	6	HONSHU, JAPAN
28	02	12	19.0*	40.090	N	19.377	E	33	N	3.4	0.8	13	ALBANIA
28	03	45	17.4*	39.046	N	21.893	E	10	G	3.9	1.1	18	GREECE. ML 3.2 (ATH).
28	04	30	49.5*	24.695	N	122.742	E	109		3.9	0.7	14	TAIWAN REGION
28	05	02	06.3?	52.29	N	169.49	W	33	N	4.4	1.0	11	FOX ISLANDS, ALEUTIAN ISLANDS
28	05	29	39.6*	52.160	N	169.229	W	33	N	4.6 4.3	1.1	34	FOX ISLANDS, ALEUTIAN ISLANDS
28	05	42	52.0	38.817	N	24.966	E	10	G	3.6	0.9	20	AEGEAN SEA. ML 3.6 (ATH).
28	06	38	50.7?	45.201	N	6.584	E	10	G		0.8	8	FRANCE. ML 3.0 (LDG).
28	07	07	51.1*	35.767	N	79.512	E	33	N	4.5	1.2	6	KASHMIR-TIBET BORDER REGION
28	09	44	43.4	52.185	N	169.378	W	33	N	5.0 4.1	0.9	100	FOX ISLANDS, ALEUTIAN ISLANDS
28	12	16	19.8*	30.109	N	138.860	E	421		4.4	0.6	19	SOUTH OF HONSHU, JAPAN
28	13	26	27.4	55.484	S	147.394	E	10	G	5.4 5.2	1.4	49	WEST OF MACQUARIE ISLAND
28	17	37	14.9?	45.547	N	6.465	E	10	G		0.5	9	FRANCE. ML 3.1 (LDG).
28	17	55	07.2*	16.416	N	98.070	W	33	N		1.4	14	NEAR COAST OF GUERRERO, MEXICO
28	18	42	54.1	39.092	N	24.386	E	10	G	3.8	1.0	19	AEGEAN SEA. ML 3.5 (ATH).
28	19	24	47.4*	61.238	N	147.014	W	33	N		0.9	16	SOUTHERN ALASKA. ML 3.2 (PNR).
28	19	42	06.2*	29.087	S	67.382	W	148			0.7	7	LA RIOJA PROVINCE, ARGENTINA
28	20	22	17.5	4.787	S	152.714	E	52		5.1	1.0	82	NEW BRITAIN REGION. Felt (III) at Rabaul.
28	22	47	44.1	35.917	N	141.553	E	55	D	5.0	0.9	62	NEAR EAST COAST OF HONSHU, JAPAN
28	23	01	07.4?	39.218	N	27.755	E	10	G		0.3	5	TURKEY
28	23	30	39.7*	39.462	N	26.071	E	10	G		1.4	5	TURKEY
28	23	42	33.4*	3.212	S	177.411	E	33	N	4.6	0.4	9	GILBERT ISLANDS REGION
29	00	17	01.0	60.118	N	2.151	E	10	G	5.0	1.2	64	NORTH SEA. ML 4.3 (NB2). Felt at Bergen, Norway.
29	01	04	44.5*	16.497	N	98.356	W	33	N		1.5	11	NEAR COAST OF GUERRERO, MEXICO
29	02	15	29.0&	34.083	N	119.017	W	12	G			7	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
29	03	13	31.0*	4.121	S	142.860	E	133		4.3	1.0	12	PAPUA NEW GUINEA
29	03	30	25.6*	6.216	S	130.084	E	187		4.6	1.3	10	BANDA SEA
29	03	52	47.1*	33.805	N	25.587	E	33	N	4.0	1.5	14	EASTERN MEDITERRANEAN SEA

29	03	59	01.8*	18.666	S	177.218	W	366		4.6	1.0	39	FIJI ISLANDS REGION
29	05	50	08.6&	33.950	N	118.717	W	11	G			16	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.4 (PAS). Felt (V) at Los Angeles and (IV) at Agoura. Also felt at Hawthorne, North Hollywood and Thousand Oaks.
29	05	56	20.6*	59.494	N	152.515	W	89			1.2	12	SOUTHERN ALASKA
29	06	05	57.7*	39.151	N	38.091	E	10	G	4.3	1.4	13	TURKEY. Felt at Sivas.
29	10	11	42.9*	14.319	S	66.051	E	10	G	4.9 4.6	0.8	36	MID-INDIAN RISE
29	11	59	58.3*	14.337	S	66.080	E	10	G	4.9	1.1	36	MID-INDIAN RISE
29	16	12	56.0	5.608	S	147.291	E	167		5.0	0.8	56	EAST PAPUA NEW GUINEA REGION
29	20	05	00.06	37.102	N	116.075	W	0	G	4.5		32	SOUTHERN NEVADA. <DOE>. ML 4.6 (BRK). 37° 06' 08.30" N., 116° 04' 29.90" W., Surface Elev. 1280 m., Depth of Burial 400 m., Shot Time 200500.083, "MONTEREY", Nevada Test Site (Dept. of Energy).
29	22	08	46.6	38.050	N	23.186	E	10	G	4.1	1.1	33	GREECE. ML 3.8 (ATH).
30	01	41	50.4?	64.69	N	149.83	W	15	G		0.5	11	CENTRAL ALASKA. ML 3.9 (PNE). Felt at Manley Hot Springs, Minto and Fairbanks.
30	02	20	23.9*	19.217	S	169.191	E	157		4.6	1.4	9	VANUATU ISLANDS
30	02	30	48.5*	40.884	N	19.751	E	10	G	3.3	0.9	19	ALBANIA. ML 4.1 (ATH).
30	03	40	51.4	18.652	S	173.635	W	33	N	5.7 4.9	1.1	142	TONGA ISLANDS

CMTS: (HRV) B073082A DATA: GDSN ; L.P. BODY WAVES: 11S, 27C, T= 45;
CENTROID LOCATION OT 3:41: 1.9 0.3; LAT 18.45S 0.04; LON 173.74W 0.04; DEP 70.3 3.9; HALF-DURATION 2.0
MT: Scale 10**24 d-cm; MRR=-0.49 0.06; MTT=-0.11 0.10; MFF= 0.60 0.08; MRT= 0.33 0.06; MRF= 2.32 0.08; MTF=-0.81 0.09
PRINCIPAL AXES: (T) VAL= 2.51; PLG=36; AZM=258; (N) VAL= 0.06; PLG=20; AZM= 3; (P) VAL= -2.57; PLG=47; AZM=116
BEST DOUBLE COUPLE: Mo= 2.5*10**24; NP1: STRIKE=291; DIP=21; SLIP=-164; NP2: STRIKE=185; DIP=84; SLIP= -70

30	07	09	15.3*	11.942	S	76.361	W	33	N		1.5	6	PERU
30	07	37	19.5	3.741	N	128.622	E	41		4.7	1.4	21	NORTH OF HALMAHERA
30	08	58	47.5*	26.352	S	27.446	E	5	G		1.2	9	REPUBLIC OF SOUTH AFRICA
30	09	28	01.0*	3.249	S	177.502	E	33	N	4.7	0.7	21	GILBERT ISLANDS REGION
30	10	11	08.4*	23.765	N	142.074	E	16		4.6	0.6	14	VOLCANO ISLANDS REGION
30	13	52	33.4	2.659	S	130.184	E	33	N	4.9	1.2	24	CERAM
30	14	08	09.8	51.191	N	130.415	W	10	G	3.8	0.9	15	QUEEN CHARLOTTE ISLANDS REGION
30	14	52	08.2	45.648	N	26.564	E	167		3.1	0.9	11	ROMANIA
30	19	46	40.4*	15.397	N	61.351	W	124		4.7	0.7	29	LEEWARD ISLANDS
30	21	00	02.2	53.813	N	104.132	E	33	N	5.1 3.8	0.6	82	LAKE BAIKAL REGION
30	21	31	20.8*	40.417	N	27.110	E	10	G		0.9	9	TURKEY
30	21	33	14.7*	16.553	N	101.222	W	33	N		1.5	9	NEAR COAST OF GUERRERO, MEXICO
30	22	51	58.4	45.743	N	26.652	E	124			0.5	9	ROMANIA
31	00	57	58.4&	35.750	N	117.733	W	5	G			8	CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
31	06	29	15.5	51.755	N	176.137	E	38		6.2 6.0	0.?	324	RAT ISLANDS, ALEUTIAN ISLANDS. Ms 6.1 (BRK). ML 5.9 (PMR). Felt (III) on Shemya. [FS].

MOMENT TENSOR SOLUTION. NO OF STA 13. SCALE 10**25 D-CM
PRINCIPAL AXES: (T) VAL= 4.88; PLG=76; AZM=322; (N) VAL= -0.35; PLG=11; AZM= 99; (P) VAL= -4.54; PLG=10; AZM=191
BEST DOUBLE COUPLE: Mo= 4.7*10**25; NP1: STRIKE=294; DIP=37; SLIP= 108; NP2: STRIKE= 92; DIP=55; SLIP= 77
CMTS: (HRV) B073182A DATA: GDSN ; L.P. BODY WAVES: 17S, 46C, T= 45;
CENTROID LOCATION OT 6:29:16.6 0.2; LAT 51.62N 0.03; LON 175.65E 0.05; DEP 19.2 1.8; HALF-DURATION 4.6
MT: Scale 10**25 d-cm; MRR= 1.38 0.04; MTT=-1.66 0.05; MFF= 0.28 0.05; MRT= 1.74 0.22; MRF= 0.62 0.11; MTF=-0.13 0.05
PRINCIPAL AXES: (T) VAL= 2.31; PLG=63; AZM=327; (N) VAL= 0.20; PLG=10; AZM= 77; (P) VAL= -2.50; PLG=25; AZM=171
BEST DOUBLE COUPLE: Mo= 2.4*10**25; NP1: STRIKE=282; DIP=22; SLIP= 117; NP2: STRIKE= 73; DIP=71; SLIP= 80

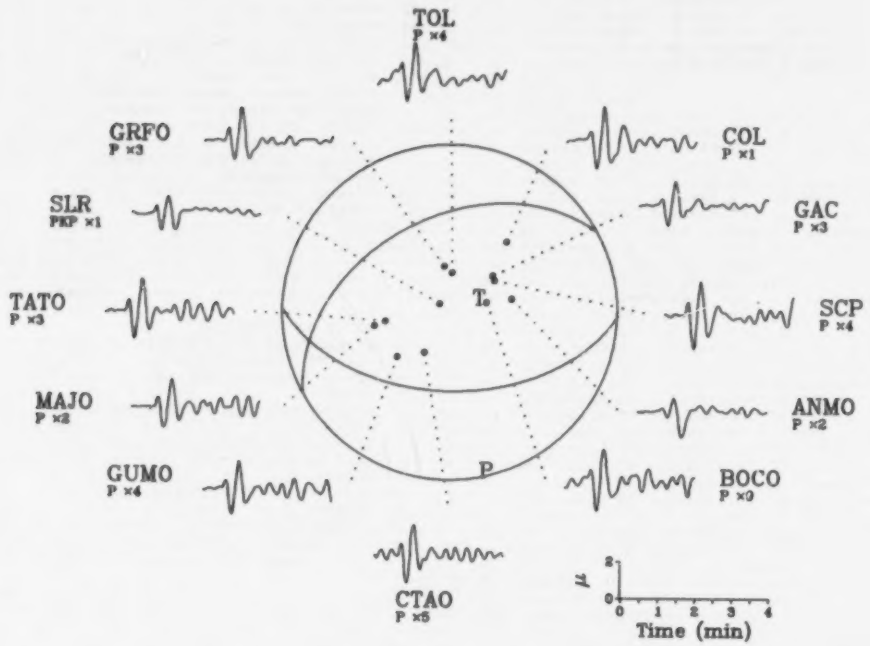
31	09	19	40.7*	15.964	S	74.656	W	33	N		0.7	5	NEAR COAST OF PERU
31	10	09	12.6&	38.898	N	27.763	E	10	G		0.6	5	TURKEY
31	10	29	52.6&	38.931	N	28.183	E	10	G		1.6	5	TURKEY
31	11	07	17.2	40.097	N	28.881	E	11			0.5	17	TURKEY
31	11	07	24.1*	29.137	S	178.217	W	187		5.0	1.2	31	KERMADEC ISLANDS
31	11	23	51.4&	40.104	N	28.871	E	10	G		1.0	5	TURKEY
31	12	30	03.6*	31.291	S	68.839	W	122			0.5	8	SAN JUAN PROVINCE, ARGENTINA
31	13	00	38.3*	36.435	N	141.563	E	33	N	4.1	1.5	8	NEAR EAST COAST OF HONSHU, JAPAN
31	15	32	05.4?	3.99	N	82.35	W	33	N	4.6	0.6	7	SOUTH OF PANAMA
31	15	32	10.7*	4.016	N	127.419	E	33	N	4.9	1.1	9	TALAUD ISLANDS
31	16	05	25.9*	28.797	N	56.603	E	33	N	4.6 3.6	0.4	17	SOUTHERN IRAN
31	19	21	03.8	38.546	N	25.545	E	10	G	3.0	1.0	13	AEGEAN SEA. ML 3.4 (ATH).
31	19	47	27.6*	46.796	N	8.785	E	10	G		0.3	5	SWITZERLAND
31	20	24	10.3*	5.358	S	151.056	E	118		5.3	0.9	10	NEW BRITAIN REGION
31	21	52	06.2*	0.901	N	82.721	E	33	N	5.1	1.5	10	NORTH INDIAN OCEAN
31	21	55	36.0*	14.012	N	90.938	W	92		4.5	0.9	27	GUATEMALA
31	23	43	49.4&	46.352	N	2.557	E	10	G		0.3	7	FRANCE. ML 1.9 (LDG).

Compiled by W. Leroy Irby, Willis L. Jacobs, John H. Minsch, Russell E. Needham, Waverly J. Person, Bruce W. Presgrave and William H. Schneider.

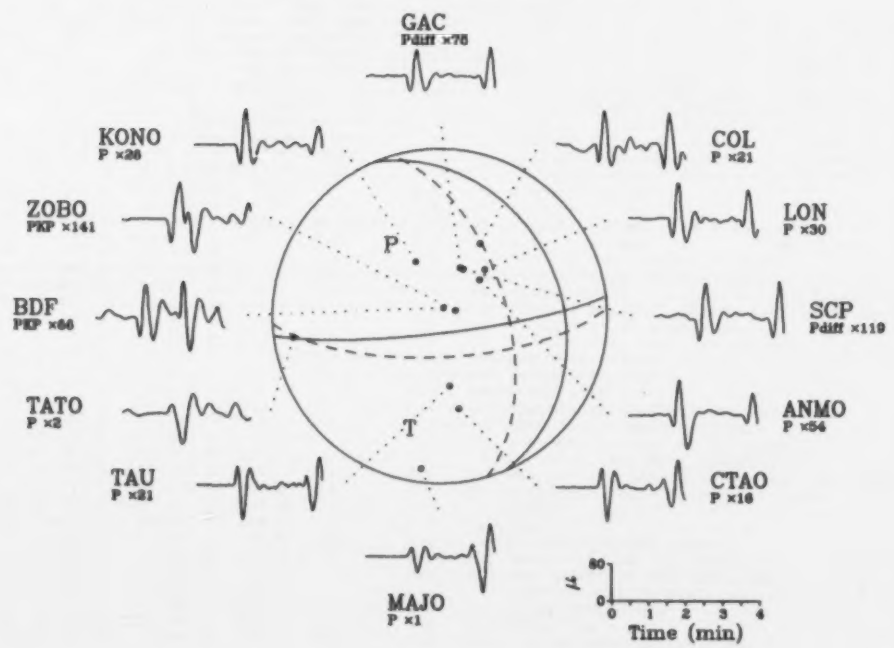
Fault Plane Solutions: A fault plane solution is determined when possible from P-wave first motions for any earthquake having a magnitude of 6.5 or greater. A description of this solution is reported in the comments on the Preliminary Determination of Epicenters Monthly Listing. Focal sphere solutions and first motion parameters are available upon request from:

National Earthquake Information Service
U.S. Geological Survey
Stop 967, Box 25046
Denver Federal Center
Denver, CO 80225 USA

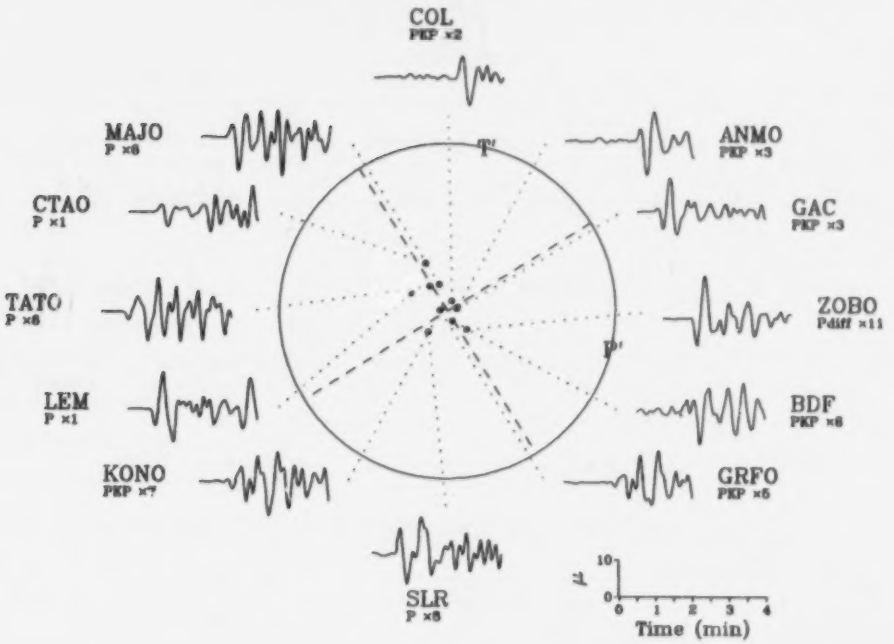
1 July 1982 07:41:53.26
Andreanof Islands, Aleutian Islands



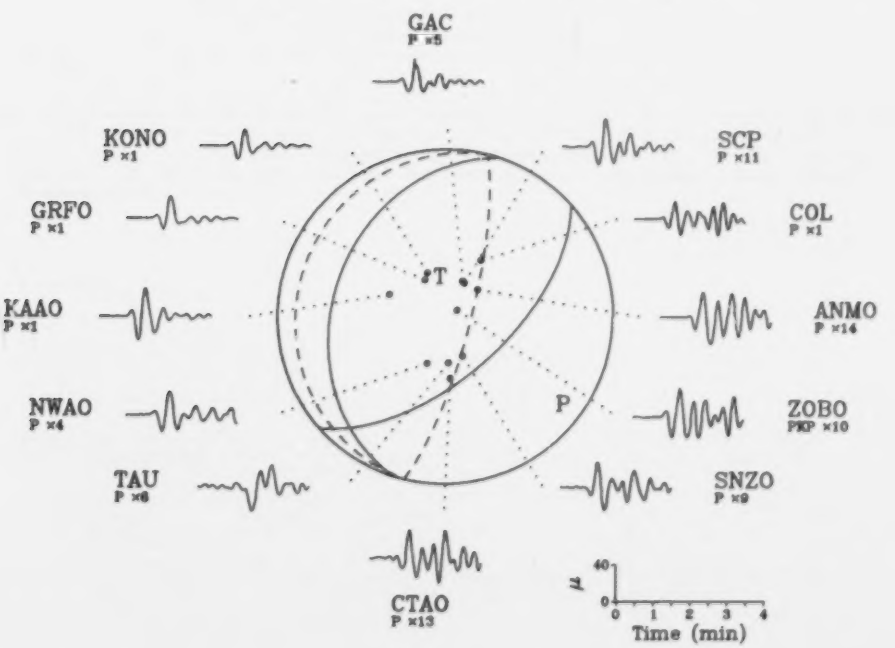
4 July 1982 01:20:06.80
East of Ryukyu Islands



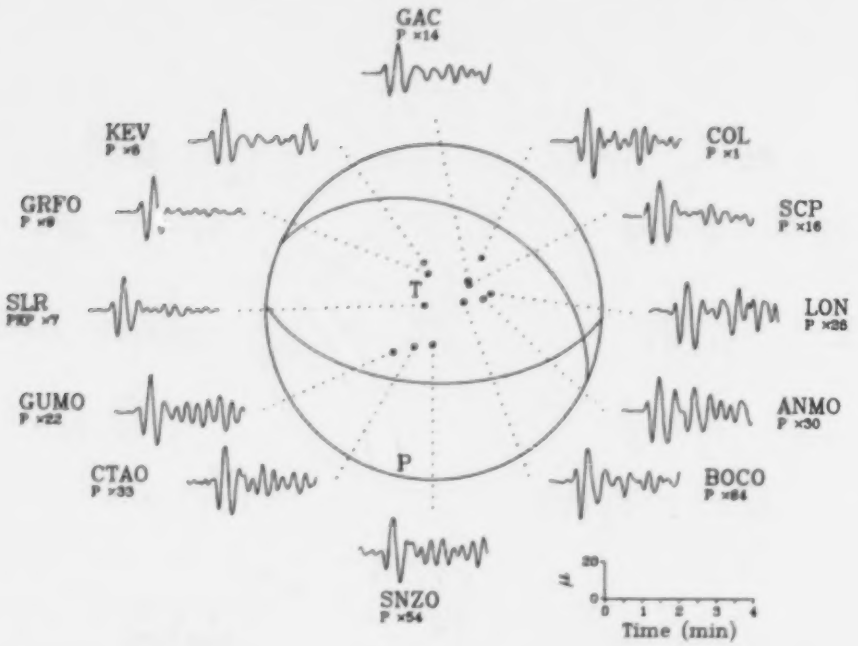
7 July 1982 10:43:03.74
North of Macquarie Islands



23 July 1982 14:23:53.57
Near East Coast of Honshu, Japan



31 July 1982 06:29:15.52
Rat Islands, Aleutian Islands



EXPLANATION OF ABBREVIATIONS AND SYMBOLS APPEARING IN THIS PUBLICATION

Depth

An "N" following the depth indicates the depth was restrained at 33 km for earthquakes whose character on seismograms indicates a shallow focus but whose depth is not satisfactorily determined by the data.

A "D" following the depth indicates the depth was restrained by the computer program based on 2 or more compatible pP phases and/or unidentified secondary arrivals used as pP.

A "G" following the depth indicates the depth was restrained by an NEIS geophysicist, based on evidence from available seismograms.

Abbreviations in Heading

MB - Body wave magnitudes.

Msz - Vertical surface wave magnitudes.

UTC - Coordinated Universal Time.

HR MN SEC - Hour, minute, second.

SD - Standard Deviation from the arithmetic mean of residuals.

No. Sta. - Number of stations reporting P or PKP phases used in computation.

Symbols Following Origin Time

* Indicates a less reliable solution. The hypocenter has been determined from incomplete or less reliable data so that it is not considered as accurate as the computed solution would seem to indicate (the absence of this or any other symbol is intended to indicate that inaccuracies in the hypocenter determination are thought to be due primarily to the travel time curves, network bias and methods used rather than the quality of the data).

? Indicates a poor solution, published for completeness of the catalog. The hypocenter has been determined from incomplete or less reliable data so that the accuracy is considered to be below normal NEIS publication criteria. This includes a poor solution computed using data reported by a single network.

% Indicates a single network solution. A non-furnished hypocenter has been computed using data reported by a single network of stations for which the data and/or origin time cannot be confirmed from seismograms available to a NEIS analyst. All other parameters of the solution are considered to be consistent with normal NEIS publication criteria.

& Indicates that parameters of the hypocenter were supplied or determined by a computational procedure not normally used by the National Earthquake Information Service (NEIS). The source or nature of the determination is indicated by a 2 to 5 letter code enclosed by angle brackets and appearing in the first line of comments. A "-P" appended to the code indicates that the computation is preliminary. These codes are included with the list of abbreviations below.

Symbols and Abbreviations Used in Comments

AEC	U.S. Atomic Energy Commission.
APT	University of Connecticut.
BLA	Virginia Polytechnic Institute and State University, Blacksburg.
BRK	University of California, Berkeley.
CL	Coda length magnitude.
CMTS	Centroid, Moment Tensor Solution.
DOE	U.S. Department of Energy.
DUR	Duration magnitude.
ERDA	U.S. Energy Research and Development Administration.
EXPLO	Some or all parameters of explosion (controlled or accidental) supplied by any group or individual other than ERDA or its successor organizations.
[FS]	Focal sphere included in this publication.
GS	U.S. Geological Survey - other than NEIS or HVO.
HVO	Hawaiian Volcano Observatory.
JMA	Japan Meteorological Agency (generally used to indicate 7-point Japanese Intensity Scale).
LDG	Laboratoire de Detection Geophysique, Montrouge, France.
MACRO	Hypocenter based upon macroseismic information.
MW	Moment Magnitude.
OTT	Earth Physics Branch, Ottawa, Canada.
PAL	Columbia University, Lamont-Doherty Geological Observatory, Palisades, New York.
PAS	California Institute of Technology, Pasadena.
PGC	Pacific Geoscience Centre, Sidney, British Columbia, Canada.
PMR	Alaska Tsunami Warning Center, Palmer, Alaska.
REN	University of Nevada, Reno.
RF	Rossi-Forel Intensity Scale.
SEA	University of Washington, Seattle.
SLC	University of Utah, Salt Lake City.
SLM	St. Louis University, Missouri.
SPEC	An NEIS solution based on use of dense local networks, a local crustal model, or other methods not routinely applied in calculating the hypocenter parameters.
TEIC	Tennessee Earthquake Information Center, Memphis.
TUL	Oklahoma Geological Survey, Leonard.
WES	Weston Observatory, Massachusetts.
Roman Numerals	Used to indicate intensity (when not followed by RF or JMA they refer to the Modified Mercalli Scale or any 12-point intensity scale closely related to it).
° ' "	Geographic degrees, minutes, seconds.
-P	Supplied hypocenter is a preliminary computation.

Any additional 3 to 5 letter codes enclosed in parentheses or angle brackets refer to individual station codes. These codes may be found in Geological Survey Circular 791, Seismograph Station Codes and Characteristics (1978).

COMPARISON OF RATINGS OF INTENSITY SCALES APPEARING IN PRELIMINARY DETERMINATION OF EPICENTERS

U.S.A. Modified Mercalli (M.M.), 1931	Japanese, 1950 (JMA)	Rossi-Forel, 1873 (RF)	European (Mercalli - Cancani-Sieberg), 1917
I	0	I	I
II	I	I-II	II
III	II	III	III
IV	II-III	IV-V	IV
V	III	V-VI	V
VI	IV	VI-VII	VI
VII	IV-V	VIII-	VII
VIII	V	VIII+-IX	VIII
IX	V-VI	IX+	IX
X	VI	X	X
XI	VII	X	XI
XII	VII	X	XII

NEIS MAGNITUDES

All magnitudes are NEIS magnitudes unless otherwise indicated.

Ms These surface wave magnitudes are computed from the I.A.S.P.E.I. formula:

$$Ms = \text{Log } (A/T) + 1.66 \text{ Log } D + 3.3$$

where:

A is the maximum ground amplitude in micrometers (microns) of the vertical component of the surface wave within the period range $18 \leq T \leq 22$.

T is the period in seconds.

D is the distance in geocentric degrees (station to epicenter) and $20° \leq D \leq 160°$.

No depth corrections are applied, and Ms magnitudes are not generally computed for depths greater than 50 km. The Ms value published is the average of the individual station magnitudes from reported T and A data.

If the uncertainty of the computed depth is considered great enough that the depth could be less than 50 km, an MS value may still be published, computed by the I.A.S.P.E.I. formula and not corrected for depth.

In general, the Ms magnitude is more reliable than the MB magnitude as a means of yielding the relative "size" of a shallow-focus earthquake.

MB These compressional body wave (P-wave) magnitudes are computed according to the formula:

$$MB = \text{Log } (A/T) + Q(D,h)$$

defined by Gutenberg and Richter (1956) except that T, the period in seconds, is restricted to $0.1 \leq T \leq 3.0$ and A, the ground amplitude in micrometers, is not necessarily the maximum in the P group. Q is a function of distance (D) and depth (h) where $D \geq 5°$.

mbLg These Lg body wave magnitudes are computed according to the formula:

$$mbLg = 3.75 + 0.90 \text{ Log } D + \text{Log } (A/T) \text{ for } 0.5° \leq D \leq 4°$$

$$mbLg = 3.30 + 1.66 \text{ Log } D + \text{Log } (A/T) \text{ for } 4° \leq D \leq 30°$$

as proposed by Nuttli (1973) where A is the ground amplitude in micrometers and T is the period in seconds calculated from the vertical component 1-second Lg waves. D is the distance in geocentric degrees.

ML These local magnitudes are computed according to the formula:

$$ML = \text{Log } A - \text{Log } Ao$$

defined by Richter (1935) where A is the maximum trace amplitude in micrometers recorded on a standard short-period torsion seismometer and Log Ao is a standard value as a function of distance where distance $\leq$ 600 km.

CONTRIBUTED MAGNITUDES

Magnitudes appearing in the comments which have been contributed by organizations operating a network of stations may have been calculated from any one station in the network or may be an average magnitude from a number of stations from the network.

TRAVEL-TIME TABLES

In general, all hypocenters have been computed based on the 1940 Jeffreys-Bullen P and 1968 Bolt PKP travel-time tables. Some other earth model or computational procedure may have been used for those hypocenters which have been indicated by an ampersand (&) following the origin time.

FAULT PLANE SOLUTIONS

A fault plane solution is determined when possible for any earthquake having a magnitude ≥ 6.5. A description of this solution is reported in the comments on the Preliminary Determination of Epicenters Monthly Listing. Focal sphere solutions and first motion parameters are available upon request from:

National Earthquake Information Service
U.S. Geological Survey
Stop 967, Box 25046
Denver Federal Center
Denver, CO 80225

REFERENCES

Gutenberg, B., and Richter, C. F., 1956, Magnitude and energy of earthquakes: Annali di Geofisica, v. 9, no. 1, p. 1-15.

Nuttli, O. W., 1973, Seismic wave attenuation and magnitude relations for eastern North America: Journal of Geophysical Research, v. 78, no. 5, p. 876-885.

Richter, C. F., 1935, An instrumental earthquake scale: Bulletin of the Seismological Society of America, v. 25, p. 1-32.

WAVEFORM PLOTS

Research users of the Monthly Listing have long desired some index to source "complexity" and to anomalies in body phase waveforms and spectra. Users of the Global Digital Seismograph Network (GDSN) Network Day tapes (NDT's) have requested some sort of graphical catalogue of digitally recorded event data. Waveform plots, which will appear (on a trial basis) each month as an addendum to the Monthly Listing, represent our initial effort to satisfy these needs within the constraints of limited resources. These plots also provide an opportunity for graphically displaying focal parameters presented within the text of the Monthly Listing, as well as a forum for illustrating the unique capabilities of the GDSN.

Each month selected events with MB $\geq$ 5.8 will be shown. For each event, up to twelve long-period, vertical component, body phase waveforms will be selected from the NDT's for display about the periphery of an equal area plot of the lower hemisphere of the focal sphere. Each waveform will be connected by a dotted line to a symbol marking the corresponding azimuth and take-off angle (derived from the Jeffreys-Bullen travel-time tables) on the focal sphere. For reference, the nodal planes, compression axis (P), and tension axis (T) will also be plotted when solutions are available. The dominant double couple of the long period, P-waveform, moment tensor inversion of Sipkin will be shown in solid lines with the axes designated by P and T respectively. The first motions fault plane solution of Needham will be shown in dashed lines with the axes designated by P' and T' respectively. If both solutions are available, the primed axes will be suppressed unless they are sufficiently different from the unprimed axes. Each event will be titled with its origin date-time and Flinn-Engdahl region name to facilitate cross-referencing with the Monthly Listing text.

Each waveform will be comprised of approximately half a minute of noise followed by three minutes of signal. Absolute amplitude, in micrometers of ground displacement at the dominant period of the pass-band (25s) will be preserved to an integer scale factor. Each waveform will be identified by station code, phase name, and scale factor. Time and amplitude may be referenced to a set of axes shown in the lower right hand corner of each plot. Absolute amplitude may be recovered by measuring it relative to the amplitude axis and dividing by the scale factor.

Waveforms will primarily be selected to display variations in the P waveform as a function of azimuth. If space permits, some PKP waveforms may be shown as well. To this end, waveforms which are clipped, non-linear, or very noisy will be rejected. Further, only one of several stations at similar distance and azimuth will be used if all show similar waveforms. Note that the importance of a record in focal parameter derivation will not be considered. Thus, many seismograms will be shown which have not been used in the P-waveform moment tensor solution. Conversely, records which have been important in constraining one or both solutions may have been pased over for lack of space. Also note that any data on the NDT's may be used. However, not all of these data have been derived from the GDSN. For details on contributed data see the NDT Newsletter.

As mentioned above, waveform plots are being presented on a trial basis and in a preliminary format. Comments, suggestions, or recommendations from readers concerning the utility, information content or display format of these plots will be very helpful in insuring that the Monthly Listing continues to meet user requirements.

R. P. Buland and M. Zirbes, U.S. Geological Survey, Box 25046, Mail Stop 967, Denver Federal Center, Denver, CO 80225 USA

EXPLANATION OF THE ENTRIES "MOMENT TENSOR SOLUTION" (USGS)

These solutions have been determined using the body-wave/moment tensor inversion method described by Sipkin (1982).

1. NUMBER OF STATIONS: Number of GDSN stations with distances between approximately 30 and 95 degrees found to have suitable P waveforms. Only unfiltered long-period vertical components are used.

2. Scale)
3. PRINCIPAL AXES) See "Centroid, Moment Tensor Solution"
4. BEST DOUBLE COUPLE)

S. A. Sipkin, U.S. Geological Survey, Box 25046, Mail Stop 967, Denver Federal Center, Denver, CO 80225 USA

REFERENCES

Sipkin, S. A., 1982, Estimation of earthquake source parameters by the inversion of waveform data: Synthetic seismograms: Physics of the Earth and Planetary Interiors, in press.

EXPLANATION OF THE ENTRIES "CENTROID, MOMENT TENSOR SOLUTION" (CMTS)

1. HARVARD EVENT-FILE NAME; a unique descriptor of the file system for a particular earthquake. The first letter descibes type of the data used in inversion: B - long period body waves; C - long period body waves and mantle waves, M - mantle waves only. The next six digits are the date (month, day, year) and the last letter identifies the order of the event among those investigated for a given day; A is the first.

2. DATA USED; currently only GDSN data are used, but in the near future it might be possible to include the available data from the IDA network. The numbers following the entries L. P. BODY WAVES and MANTLE WAVES indicate the number of stations (S), total number of records (C) and T is the cut-off period of the low pass filter for each of the subsets of data. Mantle waves are routinely used in inversion for sources with moments greater than 10 ** 26 dyne-cm.

3. CENTROID LOCATION; hypocentral parameters obtained by adding perturbations resulting from inversion to the parameters reported in the PDE cards; standard errors follow the individual entries. If a given parameter is not perturbed in inversion, this is indicated by the letters FIX.

4. MOMENT TENSOR. The scale factor (e.g., 10**27D-CM) is the number by which all subsequent entries related to values of the moment should be multiplied. For the moment tensor we give components in a spherical coordinate system: MRR = M_{rr}; MTT = $M_{\theta\theta}$; MFF = $M_{\phi\phi}$; MRT = $M_{r\theta}$; MRF = $M_{r\phi}$; MTF = $M_{\theta\phi}$. In another frequently used notation: MRR = M_{zz} ; MTT = M_{xx}; MFF = M_{yy}; MRT = M_{xz}; MRF = $-M_{yz}$; MTF = $-M_{xy}$(see Aki and Richards, 1980, p. 118). The solutions are constrained to have MRR + MTT + MFF = 0. The values following the entries for the elements of the moment tensor and centroid co-ordinates are standard errors, calculated under the usual assumption of uncorrelated errors in the data. The lateral heterogeneity of the Earth, however, clearly leads to systematic errors, and so the errors listed probably underestimate the true error in the solution. Nevertheless the standard errors will be indicative of the comparative accuracy of the moment tensor components and centroid co-ordinates.

5. PRINCIPAL AXES; rotation of the moment tensor into the principal axes system. Most of the solutions are predominantly of the double couple type: the largest positive eigenvalue corresponds, therefore, to the tension axis (T); the usually small, intermediate eigenvalue is associated with the null axis (N); the largest (in the absolute sense) negative eigenvalue is identified with the compression axis (P). PLG are the plunges and AZM the azimuths of the axes.

6. BEST DOUBLE COUPLE. If the eigenvalue (T) is σ_1 and (P) is $-\sigma_2$, then the scalar seismic moment is defined as Mo = $1/2(\sigma_1 + \sigma_2)$. The strike, dip and slip of the first (NP1) and second (NP2) nodal planes are calculated from the directions of the P, T, and N axes. The remainder is a linear-vector dipole (Knopoff and Randall, 1970); in most cases the magnitude of LVD is small. Although all such decompositions are highly non-unique, this particular one is the best in estimating the starting solution for the non-linear, constrained double couple inverse problem. The angles strike, dip, and slip are defined using the convention of Aki and Richards (1980, p. 106) and are the angles designated there as ϕ_s, δ, λ, respectively.

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REFERENCES

Aki, K. and Richards, P. G., Quantitative Seismology, Volume 1, W. H. Freeman, San Francisco, 1980, 557 pp.

Backus, G. E. and Mulcahy, M., Moment tensors and other phenomenonological descriptions of seismic sources, I. Continuous displacements, Geophys., J. R. Astron., Soc., 46, 341-361, 1976.

Dziewonski, A. M. and Anderson, D. L., Preliminary Reference Earth Model, Phys. Earth Planet. Interior, 25, 297-356, 1981.

Dziewonski, A. M., Chou, T. A., Woodhouse, J. H., Determination of earthquake source parameters from waveform data for studies of global and regional seismicity, J. Geophys. Res., 86, 2825-2852, 1981.

Gilbert, F. and Dziewonski, A. M., An application of normal mode theory to the retrieval of structural parameters and source mechanisms from seismic spectra, Phil. Trans. R. Soc. London, A278, 187-269, 1975.

Knopoff, L. and Randall, M. J., The compensated linear-vector dipole: A possible mechanism for deep earthquakes, J. Geophys. Res. , 75, 4957-4963, 1970.

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National Earthquake Information Service

AUG 1982

DAY	ORIGIN TIME UTC HR	MN	SEC	GEOGRAPHIC COORDINATES LAT		LONG		DEPTH	MAGNITUDES MB	Msz	SD	NO. STA USED	REGION, CONTRIBUTED MAGNITUDES AND COMMENTS
01	02	25	02.9	51.631	N	16.181	E	10 G	4.7		1.2	39	POLAND. ML 4.4 (GRF).
01	04	01	16.2	8.919	N	82.864	W	33 h	4.7		1.2	12	PANAMA-COSTA RICA BORDER REGION. Felt (III) at San Jose, Costa Rica.
01	04	06	30.9	6.677	N	126.445	E	118	4.8		1.1	25	MINDANAO, PHILIPPINE ISLANDS
01	04	45	16.2*	35.225	N	139.880	E	84	4.5		0.8	13	NEAR S. COAST OF HONSHU, JAPAN. Felt (II JMA) in the Tokyo area.
01	06	07	17.6*	23.785	S	68.729	W	90	4.4		1.1	8	NORTHERN CHILE
01	07	00	46.2*	51.695	N	15.635	E	10 G			1.2	9	POLAND. ML 3.6 (GRF).
01	15	16	27.6	24.184	N	121.842	E	33 h	4.0		1.4	16	TAIWAN
01	18	21	51.3*	38.307	N	23.271	E	10 G	4.6		1.4	7	GREECE. ML 3.4 (ATH).
01	18	51	57.7	17.842	S	178.648	W	559	4.9		0.9	45	FIJI ISLANDS REGION
01	20	23	31.4*	57.462	N	153.724	W	52	4.3		1.1	12	KODIAK ISLAND REGION
01	20	38	16.8	2.504	N	78.853	W	33 N	5.1	4.8	0.9	87	NEAR WEST COAST OF COLOMBIA. Felt in the Guapi-Tumaco area.
01	23	19	41.3	31.417	S	68.808	W	111			0.9	14	SAN JUAN PROVINCE, ARGENTINA
02	02	04	38.3?	39.54	N	26.13	E	10 G			1.2	8	TURKEY. ML 3.3 (ATH).
02	02	34	17.3	63.601	N	151.023	W	151	4.1		0.9	22	CENTRAL ALASKA
02	06	16	49.5	31.541	S	69.377	W	122			1.0	13	SAN JUAN PROVINCE, ARGENTINA
02	07	24	11.1*	36.114	N	141.417	E	33 N	4.3		1.1	11	NEAR EAST COAST OF HONSHU, JAPAN
02	07	37	08.4*	36.383	N	141.213	E	33 N	4.2		1.1	8	NEAR EAST COAST OF HONSHU, JAPAN
02	08	10	58.9	26.756	N	99.709	E	33 N	4.6		0.8	7	YUNNAN PROVINCE, CHINA
02	09	54	25.5?	3.61	S	177.77	E	33 N	4.6		1.0	12	GILBERT ISLANDS REGION
02	09	59	12.6*	13.474	S	70.515	W	33 N	4.3		1.1	7	PERU
02	10	49	31.7	8.959	S	124.022	E	92	5.4		1.2	70	TIMOR

CMTS: (HRV) B080282A DATA: GDSN ; L.P. BODY WAVES: 9S, 19C, T= 45;
CENTROID LOCATION OT 10:49:10.4 1.8; LAT 7.99S 0.24; LON 124.23E 0.18; DEP 34.8 9.6; HALF-DURATION 1.5
MT: Scale 10**23 d-cm; MRR=-4.99 1.38; MTT=-1.59 1.68; MFF= 6.58 1.64; MRT=-2.24 1.93; MRF=-4.37 2.20; MTF=-2.75 1.52
PRINCIPAL AXES: (T) VAL= 8.43; PLG=16; AZM= 78; (N) VAL= -0.50; PLG=29; AZM=177; (P) VAL= -7.93; PLG=56; AZM=323
BEST DOUBLE COUPLE: Mo= 8.2*10**23; NP1: STRIKE=134; DIP=38; SLIP=-140; NP2: STRIKE= 11; DIP=67; SLIP= -58

02	11	00	07.0*	20.351	S	174.453	W	33 N	4.9		1.2	17	TONGA ISLANDS
02	11	54	27.1*	19.337	S	172.856	W	33 N	4.9		0.6	5	TONGA ISLANDS REGION
02	16	14	24.8	41.908	N	20.878	E	10 G	3.6		1.1	22	ALBANIA. ML 3.3 (TIR). Felt in the Tetovo, Yugoslavia area.
02	16	26	55.4	36.169	N	141.300	E	33 N	4.8	4.1	1.0	32	NEAR EAST COAST OF HONSHU, JAPAN
02	19	08	51.9*	36.151	N	141.463	E	33 N	4.4		1.1	10	NEAR EAST COAST OF HONSHU, JAPAN
02	19	33	15.3%	15.250	N	60.676	W	33 N			0.3	8	LEEWARD ISLANDS
02	20	02	47.4	26.476	N	99.761	E	33 N	4.6		1.3	16	YUNNAN PROVINCE, CHINA
02	20	33	11.3*	15.389	S	173.055	W	33 N	5.1		1.2	52	TONGA ISLANDS
02	20	52	20.8	13.271	S	166.188	E	44	4.5		1.0	35	VANUATU ISLANDS
02	21	41	25.6%	15.315	N	98.546	W	33 N			0.5	6	OFF COAST OF GUERRERO, MEXICO
02	21	47	32.5*	10.264	S	150.217	E	33 N	3.7		1.4	7	EAST PAPUA NEW GUINEA REGION
02	21	54	13.2%	15.076	N	61.253	W	33 N			0.3	6	LEEWARD ISLANDS
02	22	00	45.0	3.294	S	177.601	E	33 N	4.9	4.5	0.8	28	GILBERT ISLANDS REGION
02	22	43	27.3?	3.26	S	177.42	E	33 N	4.7		0.9	10	GILBERT ISLANDS REGION
02	23	31	02.3	15.982	S	173.841	W	181	4.9		1.1	29	TONGA ISLANDS
03	00	49	52.0*	15.928	S	71.322	W	79	4.9		1.0	12	SOUTHERN PERU
03	00	53	16.8	6.118	S	149.311	E	69	5.5		1.1	77	NEW BRITAIN REGION
03	03	24	21.3%	31.760	S	70.373	W	162			0.4	5	CHILE-ARGENTINA BORDER REGION
03	04	21	52.2	32.151	S	70.401	W	100			0.5	8	CHILE-ARGENTINA BORDER REGION
03	04	50	24.8	48.933	N	89.699	E	33 N	5.4		0.8	184	MONGOLIA
03	06	04	39.6	13.741	N	146.340	E	47	5.8	5.9	1.0	189	SOUTH OF MARIANA ISLANDS. Ms 5.7 (BRK), 5.6 (PAS). [FS].

FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE= 40; DIP=67; SLIP= 90. NP2: STRIKE=220; DIP=23; SLIP= 90
PRINCIPAL AXES: (T) PLG=68; AZM=310. (P) PLG=22; AZM=130
Poorly controlled reverse fault type mechanism. NP2 designated as the fault plane.

MOMENT TENSOR SOLUTION. NO OF STA 4. SCALE 10**24 D-CM
PRINCIPAL AXES: (T) VAL= 7.68; PLG=66; AZM=342; (N) VAL= -1.00; PLG=23; AZM=182; (P) VAL= -6.68; PLG= 8; AZM= 89
BEST DOUBLE COUPLE: Mo= 7.2*10**24; NP1: STRIKE=155; DIP=43; SLIP= 55; NP2: STRIKE= 19; DIP=57; SLIP= 118

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   CMTS:  (NRV) B0803B2A   DATA:  GDSN            ;  L.P. BODY WAVES:  13S, 33C, T= 45;
   CENTROID LOCATION   OT  6: 4:41.1 0.3;  LAT 13.97N 0.05;  LON 147.22E 0.04;  DEP  17.2 2.3;        HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 5.40 0.17; MTT=-0.58 0.21; MFF=-4.82 0.22; MRT= 2.99 0.65; MRF= 1.32 0.52; MTF=-1.28 0.18
   PRINCIPAL AXES:  (T) VAL=  6.69; PLG=68; AZM=350;  (N) VAL= -1.07; PLG=18; AZM=205;  (P) VAL= -5.62;  PLG=12; AZM=111
   BEST DOUBLE COUPLE:       Mo= 6.1*10**24;    NP1:  STRIKE=179; DIP=37; SLIP=  58;   NP2:  STRIKE= 36; DIP=59; SLIP= 111
03   06 09 53.7* 60.290 N  140.737 W   14                    0.9    8  SOUTHEASTERN ALASKA. ML 3.4 (PMR).
03   08 03 31.0  27.895 N   85.465 E   33 N  4.6             0.9   26  NEPAL
03   08 23 06.7   5.084 N   78.339 W   33 N  4.6 4.2          1.3   15  SOUTH OF PANAMA
03   08 43 36.2  13.692 N  146.463 E   33 N  5.0             1.0   22  SOUTH OF MARIANA ISLANDS
03   08 44 44.0   2.857 N   97.494 E   58    5.0             1.1   48  NORTHERN SUMATERA
03   09 43 05.1  12.482 N  143.280 E  112    4.9             0.8   47  SOUTH OF MARIANA ISLANDS
03   12 19 09.2*  6.909 S   29.888 E   10 G  3.8             1.1    8  LAKE TANGANYIKA REGION
03   18 07 07.1* 38.486 N   19.566 E   10 G  4.0             0.6    6  IONIAN SEA. ML 3.5 (ATH).
03   16 38 05.36 33.267 N  116.417 W    3 G                          11  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.7 (PAS).
03   16 44 03.1  32.243 S   71.461 W   48    5.2             1.0   35  NEAR COAST OF CENTRAL CHILE. Felt (IV) at Santiago.
                                                                       Felt from La Serena to Talca.
03   17 50 56.0* 37.234 N   20.078 E   10 G  4.4             0.8   24  IONIAN SEA. ML 3.6 (ATH).
03   20 32 00.2* 36.655 N   71.282 E  123    4.1             0.6    8  AFGHANISTAN-USSR BORDER REGION
03   20 40 04.4   4.002 N  126.625 E   71    4.8             1.3   28  TALAUD ISLANDS
03   21 15 13.7* 11.910 N   93.762 E  149    4.2             0.9   23  ANDAMAN ISLANDS REGION
04   00 39 31.1   3.331 S  177.709 E   33 N  4.8             0.8   34  GILBERT ISLANDS REGION
04   01 37 47.3   3.354 S  177.661 E   33 N  4.8             0.8   32  GILBERT ISLANDS REGION
04   01 42 15.3  18.233 S   35.099 E   10 G  4.2             1.0   12  MOZAMBIQUE
04   02 12 01.5  16.857 S  175.215 W  249    6.6             1.1   41  TONGA ISLANDS
04   04 50 01.4* 3.761 S   131.461 E   33 N  3.6             0.3    5  WEST IRIAN REGION
04   05 12 20.3  30.545 S   68.126 W   58    4.8             1.2   42  SAN JUAN PROVINCE, ARGENTINA. Felt.
04   08 49 06.8   7.925 S  107.966 E   78    5.0             1.2   30  JAVA
04   15 41 31.66 38.915 N  122.680 W    5 G                          14  NORTHERN CALIFORNIA. <BRK>. ML 3.0 (BRK). Felt (V) at
                                                                       Clear Lake Oaks and (IV) at Clear Lake Highlands. Also
                                                                       felt at Lakeport and Middletown.
04   16 08 09.2   3.476 S  131.331 E   33 N  4.7             1.3   41  WEST IRIAN REGION
04   16 13 51.6* 35.562 N  140.268 E   68                    0.9    8  NEAR EAST COAST OF HONSHU, JAPAN
04   17 34 20.8  29.669 N   67.495 E   33 N  5.0             0.8   79  PAKISTAN
04   18 02 32.0* 63.371 N  151.168 W   33 N                  0.7   12  CENTRAL ALASKA. ML 2.9 (PMR).
04   19 26 38.2* 23.032 S  173.057 E   33 N  4.5             1.1    9  LOYALTY ISLANDS REGION
04   22 38 51.1  39.723 N   20.438 E   10 G  4.9 4.6          1.3  103  GREECE-ALBANIA BORDER REGION. ML 4.8 (TIR), 4.5 (ATH).
                                                                       Felt in the Ioannina area.
04   22 51 14.5  39.648 N   20.534 E   10 G  3.8             1.2   20  GREECE-ALBANIA BORDER REGION. ML 4.1 (TIR), 3.7 (ATH).
05   00 23 49.6  35.508 N  140.695 E   56    5.0             1.1   73  NEAR EAST COAST OF HONSHU, JAPAN. Felt (III JMA) in the
                                                                       Choshi area.
05   01 12 12.6  13.943 N  146.458 E   33 N  5.0             1.2   37  SOUTH OF MARIANA ISLANDS
05   01 48 16.5? 47.85  N  114.35  W    5 G                   0.5    7  MONTANA. ML 2.5 (NEIS), 2.4 (MSO). Felt at Echo Lake,
                                                                       Ferndale and along the east shore of Flathead Lake.
05   02 57 31.5  39.929 N   23.079 E   10 G                  1.0   10  AEGEAN SEA
05   04 02 19.84 33.267 N  116.417 W    3 G                          13  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.5 (PAS). Felt at
                                                                       Borrego Springs.
05   04 03 37.3* 39.885 N   25.492 E   10 G                  0.6    5  AEGEAN SEA. ML 3.3 (ATH).
05   04 04 35.3   7.078 S  117.258 E  612 D  5.3             0.9   85  BALI SEA
   CMTS:  (NRV) B0805B2A   DATA:  GDSN            ;  L.P. BODY WAVES:  10S, 21C, T= 45;
   CENTROID LOCATION   OT  4: 4:39.2 0.5;  LAT  7.24S 0.05;  LON 117.03E 0.06;  DEP 611.8 3.9;        HALF-DURATION  1.8
   MT: Scale 10**24 d-cm; MRR=-0.92 0.06; MTT= 0.60 0.10; MFF= 0.32 0.10; MRT= 1.45 0.09; MRF=-0.31 0.11; MTF=-0.52 0.10
   PRINCIPAL AXES:  (T) VAL=  1.73; PLG=28; AZM= 27;  (N) VAL=  0.06; PLG=12; AZM=290;  (P) VAL= -1.79;  PLG=59; AZM=180
   BEST DOUBLE COUPLE:       Mo= 1.8*10**24;    NP1:  STRIKE=146; DIP=20; SLIP= -53;   NP2:  STRIKE=287; DIP=74; SLIP=-102
05   06 09 38.3* 37.541 N  118.863 W    5 G                   0.8   15  CALIFORNIA-NEVADA BORDER REGION. ML 3.1 (BRK).
05   06 10 09.7? 37.56  N  118.95  W    5 G                   0.8    5  CALIFORNIA-NEVADA BORDER REGION. ML 3.1 (BRK).
05   07 28 08.8   5.767 S  146.367 E  113 D  5.6             0.9  143  EAST PAPUA NEW GUINEA REGION
   CMTS:  (NRV) B0805B2B   DATA:  GDSN            ;  L.P. BODY WAVES:  10S, 26C, T= 45;
   CENTROID LOCATION   OT  7:28:11.2 0.3;  LAT  5.90S 0.02;  LON 146.04E 0.04;  DEP  98.4 2.1;        HALF-DURATION  1.8
   MT: Scale 10**24 d-cm; MRR= 1.59 0.06; MTT=-1.74 0.11; MFF= 0.15 0.14; MRT= 0.84 0.06; MRF= 0.06 0.09; MTF= 0.87 0.10
   PRINCIPAL AXES:  (T) VAL=  1.83; PLG=72; AZM=328;  (N) VAL=  0.40; PLG=14; AZM=107;  (P) VAL= -2.23;  PLG=11; AZM=200
   BEST DOUBLE COUPLE:       Mo= 2.0*10**24;    NP1:  STRIKE=307; DIP=36; SLIP= 115;   NP2:  STRIKE= 98; DIP=58; SLIP=  73
05   08 15 01.7  37.628 S   73.011 W   33 N  5.0             1.1   34  NEAR COAST OF CENTRAL CHILE. Felt (II) in the Canete
                                                                       area.
05   08 55 47.4  39.065 N   23.246 E   10 G  4.4             1.2   24  AEGEAN SEA. ML 4.0 (ATH), 3.8 (TIR).
05   09 16 41.3  26.678 S   70.657 W   40    5.4 4.8          1.1  117  NEAR COAST OF NORTHERN CHILE. Ms 4.8 (BRK). Felt (VII)
                                                                       in the Caldera area.
05   11 02 47.8* 39.520 N   20.429 E   10 G                  0.8    7  GREECE-ALBANIA BORDER REGION. ML 3.6 (ATH), 3.3 (TIR).
05   11 05 41.1  39.216 N   22.865 E   10 G  4.4 3.6          1.1   44  GREECE. ML 4.2 (ATH).
05   12 01 31.5  37.970 N   19.983 E   10 G  4.6             1.0   24  IONIAN SEA. ML 4.0 (TIR), 3.8 (ATH).
05   12 18 38.6? 43.78  N   22.28  E   10 G                  1.5    5  YUGOSLAVIA
05   13 29 32.4X 44.895 N    8.218 E   10 G                  1.0   24  NORTHERN ITALY
05   14 00 00.04 37.084 N  116.007 W    0 G  5.7 4.2               227  SOUTHERN NEVADA. <DOE>. ML 5.4 (BRK), 5.6 (PAS). 37°
                                                                       05' 03.14" N., 116° 00' 23.37" W., Surface Elev. 1295
                                                                       m., Depth of Burial 640 m., Shot Time 140000.090,
                                                                       "ATRISCO", Nevada Test Site (Dept. of Energy).
05   14 27 50.8? 15.28  S   75.87  W   33 N                  1.2    9  NEAR COAST OF PERU
05   14 43 03.1  61.423 N  149.891 W   37                    0.8   16  SOUTHERN ALASKA. ML 3.0 (PMR). Felt at Anchorage, Eagle
                                                                       River and Palmer.
05   15 24 23.1   3.380 S  177.661 E   33 N  5.2             0.8   80  GILBERT ISLANDS REGION
05   15 38 30.84 37.613 N  118.897 W    5 G                          15  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.3 (BRK),
                                                                       3.2 (PAS). Felt in the Mammoth Lakes, California area.
05   16 55 06.9  44.883 N    8.243 E   10 G                  0.9   32  NORTHERN ITALY. ML 3.4 (CTI).
05   20 32 52.9  12.597 S  165.931 E   31    6.2 7.1          1.4  165  SANTA CRUZ ISLANDS. Ms 7.5 (BRK), 7.3 (PAL). [FS].
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=161; DIP=60; SLIP=  90.   NP2:  STRIKE=341; DIP=30; SLIP=  90
        PRINCIPAL AXES:   (T)  PLG=75;  AZM= 71.   (P)  PLG=15;  AZM=251
                                                                       Moderately well controlled reverse fault type
                                                                       mechanism. NP2 designated as the fault plane.

   MOMENT TENSOR SOLUTION.   NO OF STA   8.   SCALE 10**26 D-CM
   PRINCIPAL AXES:  (T) VAL=  3.92; PLG=60; AZM= 75;  (N) VAL= -0.22; PLG= 4; AZM=172;  (P) VAL= -3.70;  PLG=29; AZM=264
   BEST DOUBLE COUPLE:       Mo= 3.8*10**26;    NP1:  STRIKE=  5; DIP=16; SLIP= 104;   NP2:  STRIKE=171; DIP=74; SLIP=  86
   CMTS:  (NRV) C0805B2C   DATA:  GDSN            ;  L.P. BODY WAVES:  16S, 47C, T= 45;   MANTLE WAVES:  10S, 29C, T=135
   CENTROID LOCATION   OT 20:33: 2.0 0.1;  LAT 12.52S 0.02;  LON 166.01E 0.01;  DEP  23.9 0.7;        HALF-DURATION  9.5
   MT: Scale 10**26 d-cm; MRR= 2.88 0.03; MTT=-0.36 0.03; MFF=-2.52 0.03; MRT= 0.26 0.08; MRF=-1.42 0.10; MTF= 0.87 0.03
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   PRINCIPAL AXES:  (T) VAL=  3.23; PLG=76; AZM= 87;  (N) VAL= -0.06; PLG= 4; AZM=342;  (P) VAL= -3.17;  PLG=13; AZM=252
   BEST DOUBLE COUPLE:       Mo= 3.2*10**26;    NP1:  STRIKE=337; DIP=32; SLIP= 83;    NP2:  STRIKE=165; DIP=58; SLIP= 94
05   20 45 59.1* 31.459 S   69.853 W  124                    0.5     8  SAN JUAN PROVINCE, ARGENTINA
05   22 51 41.6* 39.537 N   24.396 E   10 G                  0.4     8  AEGEAN SEA
06   00 41 55.3? 51.14  N  177.75  W   33 N  4.5             1.0    22  ANDREANOF ISLANDS, ALEUTIAN IS. Felt (III) on Adak.
06   00 54 36.0  44.100 N   21.518 E   10 G                  0.9     8  YUGOSLAVIA
06   01 30 54.8* 43.579 N  145.434 E   33 N  5.1             0.9    30  HOKKAIDO, JAPAN  REGION
06   04 53 58.6  51.946 N  176.085 W   64       5.4          1.0   242  ANDREANOF ISLANDS, ALEUTIAN IS. Felt (IV) on Adak.
   CMTS:  (NRV) B080682A   DATA:  GDSN            ;  L.P. BODY WAVES:  10S, 27C, T= 45;
   CENTROID LOCATION   OT  4:56: 3.1 0.6;  LAT 51.83N 0.05;  LON 176.63W 0.09;  DEP  64.6 6.0;          HALF-DURATION  1.8
   MT: Scale 10**24 d-cm; MRR= 1.66 0.11; MTT=-1.53 0.16; MFF=-0.12 0.11; MRT= 0.65 0.11; MRF= 0.69 0.13; MTF=-0.76 0.17
   PRINCIPAL AXES:  (T) VAL=  1.94; PLG=72; AZM=293;  (N) VAL=  0.13; PLG=11; AZM= 62;  (P) VAL= -2.07;  PLG=13; AZM=154
   BEST DOUBLE COUPLE:       Mo= 2.0*10**26;    NP1:  STRIKE=259; DIP=33; SLIP= 111;   NP2:  STRIKE= 55; DIP=59; SLIP= 77
06   06 29 10.0& 45.890 N   75.460 W   18 G                  4     SOUTHERN ONTARIO. <OTT>. mbLg 3.7 (OTT). Felt in parts
                                                                  of western Quebec and eastern Ontario.
06   07 41 24.3? 60.51  N    6.53  E   10 G                  1.2    5  SOUTHERN NORWAY. Felt in the Bergen area.
06   07 52 53.2   6.747 S  130.043 E  141      4.2           1.0   10  BANDA SEA
06   11 23 53.7  39.349 N   23.011 E   10 G                  1.0   14  AEGEAN SEA. ML 3.0 (ATH).
06   12 37 08.4* 12.364 S  166.242 E   33 N  4.1 4.5         1.3   17  SANTA CRUZ ISLANDS
06   13 03 15.3  39.096 N   25.500 E   10 G  4.1 3.5         1.1   22  AEGEAN SEA. ML 3.6 (ATH).
06   13 29 32.7  45.004 N    8.227 E   10 G  4.6             1.4   36  NORTHERN ITALY. ML 4.1 (TRI). Felt in northwestern
                                                                  Italy.
06   13 45 26.8  10.378 S   66.248 E   10 G  5.1             0.9   74  MID-INDIAN RISE
06   14 38 47.5  44.927 N    8.275 E   87                    0.4   18  NORTHERN ITALY
06   18 54 47.3? 4.23  S  177.55  E   33 N  4.8             0.7   14  GILBERT ISLANDS REGION
06   20 40 52.2   8.375 S  120.577 E   46       5.9 5.6      1.2   76  FLORES ISLAND REGION. Considerable damage and
                                                                  landslides in the Ruteng area.
   CMTS:  (NRV) B080682B   DATA:  GDSN            ;  L.P. BODY WAVES:  10S, 28C, T= 45;
   CENTROID LOCATION   OT 20:40:54.1 0.4;  LAT  8.17S 0.05;  LON 120.10E 0.05;  DEP  14.2 5.5;          HALF-DURATION  2.3
   MT: Scale 10**24 d-cm; MRR=-1.43 0.22; MTT=-4.33 0.29; MFF= 5.76 0.27; MRT=-1.32 0.90; MRF=-1.32 0.97; MTF= 0.84 0.24
   PRINCIPAL AXES:  (T) VAL=  6.10; PLG=11; AZM= 96;  (N) VAL= -1.26; PLG=67; AZM=212;  (P) VAL= -4.85;  PLG=20; AZM=  7
   BEST DOUBLE COUPLE:       Mo= 5.5*10**24;    NP1:  STRIKE=140; DIP=68; SLIP=-173;   NP2:  STRIKE= 48; DIP=83; SLIP= -23
06   20 46 13.9   8.319 S  120.416 E   50       5.5          1.5   52  FLORES ISLAND REGION
06   21 43 23.7  15.798 S   26.014 E   10 G  4.4             1.1   12  ZAMBIA
06   23 16 14.0  42.863 N   13.004 E   10 G                  1.0    8  CENTRAL ITALY. ML 3.1 (FIR), 2.8 (RMP).
07   00 11 33.3  39.743 N   20.478 E   10 G                  1.3   18  GREECE-ALBANIA BORDER REGION. ML 3.6 (TIR), 3.5 (ATH).
07   00 31 14.3  19.239 S  173.343 W   33 N  5.1 4.9         1.0   55  TONGA ISLANDS
07   01 20 29.5  16.233 S  178.284 E   33 N  5.1 5.0         0.9   71  FIJI ISLANDS. Felt at Mbua.
07   01 41 56.8  47.345 N    9.405 E   10 G                  1.6   13  GERMANY. ML 3.1 (GRF).
07   04 40 18.9* 40.848 N  121.644 W    5 G                  0.7    8  NORTHERN CALIFORNIA. ML 3.2 (BRK).
07   05 42 08.3* 12.272 N  143.977 E   33 N  4.3             0.7   10  SOUTH OF MARIANA ISLANDS
07   06 37 56.1  49.863 N    7.827 E   10 G                  1.1    9  GERMANY
07   08 37 25.8  60.212 N  139.540 W   15 G  4.7             1.1   39  SOUTHEASTERN ALASKA. Felt (III) at Yakutat.
07   13 09 21.5* 24.445 S  175.211 W   33 N  5.0             1.1   16  SOUTH OF TONGA ISLANDS
07   13 32 07.5  28.142 N  130.028 E   33 N  5.2 5.1         1.0   93  RYUKYU ISLANDS
07   14 14 51.5& 15.761 N   99.367 W   33 N                  1.0   13  OFF COAST OF GUERRERO, MEXICO
07   15 03 57.9  36.381 N   71.308 E  139      4.8           1.1   48  AFGHANISTAN-USSR BORDER REGION. Felt (III) in the
                                                                  Ishkashim, USSR area.
07   15 41 38.5  39.753 S  174.623 E  144      4.7           0.9   17  NORTH ISLAND, NEW ZEALAND
07   15 58 35.3  42.716 N   23.530 E   10 G                  0.7    9  BULGARIA
07   17 47 09.3  40.562 N   23.657 E   10 G                  0.4   12  GREECE
07   18 20 22.1  16.548 S  172.637 W   33 N  5.5 5.7         1.3  142  SAMOA ISLANDS REGION. Ms 5.7 (BRK).
   CMTS:  (NRV) B080782A   DATA:  GDSN            ;  L.P. BODY WAVES:  9S, 26C, T= 45;
   CENTROID LOCATION   OT 18:20:27.8 0.3;  LAT 16.79S 0.05;  LON 172.77W 0.04;  DEP  15.0 FIX;          HALF-DURATION  1.8
   MT: Scale 10**24 d-cm; MRR= 3.11 0.14; MTT=-0.92 0.19; MFF=-2.19 0.17; MRT= 1.28 0.35; MRF= 6.85 0.46; MTF=-1.24 0.13
   PRINCIPAL AXES:  (T) VAL=  7.82; PLG=56; AZM=274;  (N) VAL= -0.46; PLG= 7; AZM= 14;  (P) VAL= -7.36;  PLG=33; AZM=108
   BEST DOUBLE COUPLE:       Mo= 7.6*10**24;    NP1:  STRIKE=223; DIP=13; SLIP= 120;   NP2:  STRIKE= 13; DIP=79; SLIP=  83
07   19 53 46.1  65.999 N  166.766 W   15 G  4.8 4.7         1.0   79  ALASKA. Felt (IV) at Kotzebue and Nome.
07   20 56 22.7  11.143 S  115.418 E   33 N  6.1 6.2         1.1  287  SOUTH OF BALI ISLAND. Ms 6.4 (PAL). [FS].
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE= 45; DIP=50; SLIP= 240.   NP2:  STRIKE=267; DIP=48; SLIP= 301
        PRINCIPAL AXES:  (T) PLG= 1; AZM=156.  (P) PLG=68; AZM=248
                                                                  Poorly controlled normal fault type mechanism with a
                                                                  small amount of strike-slip component. NP to be
                                                                  designated as the fault plane not determined.
   MOMENT TENSOR SOLUTION.   NO OF STA   7.   SCALE 10**25 D-CM
   PRINCIPAL AXES:  (T) VAL=  4.46; PLG=11; AZM=171;  (N) VAL=  0.37; PLG= 9; AZM=263;  (P) VAL= -4.83;  PLG=76; AZM= 32
   BEST DOUBLE COUPLE:       Mo= 4.6*10**25;    NP1:  STRIKE=250; DIP=35; SLIP=-106;   NP2:  STRIKE= 89; DIP=57; SLIP= -79
   CMTS:  (NRV) C080782B   DATA:  GDSN            ;  L.P. BODY WAVES:  15S, 43C, T= 45;  MANTLE WAVES:  10S, 26C, T=135
   CENTROID LOCATION   OT 20:56:27.8 0.2;  LAT 11.18S 0.02;  LON 115.45E 0.03;  DEP  17.7 1.4;          HALF-DURATION  5.0
   MT: Scale 10**25 d-cm; MRR=-4.72 0.11; MTT= 6.01 0.12; MFF=-1.29 0.13; MRT=-0.50 0.37; MRF=-1.18 0.31; MTF=-0.19 0.10
   PRINCIPAL AXES:  (T) VAL=  6.03; PLG= 3; AZM=181;  (N) VAL= -0.92; PLG=17; AZM= 90;  (P) VAL= -5.11;  PLG=72; AZM=279
   BEST DOUBLE COUPLE:       Mo= 5.6*10**25;    NP1:  STRIKE=288; DIP=65; SLIP= -65;   NP2:  STRIKE= 75; DIP=50; SLIP=-113
07   21 38 26.2  31.688 S   69.772 W  128                    1.0   12  SAN JUAN PROVINCE, ARGENTINA
08   02 12 55.8? 37.16  N   25.55  W   10 G                  0.1    8  AZORES ISLANDS
08   03 43 48.0* 16.512 S   72.431 W  109                    1.1   11  NEAR COAST OF PERU. Felt at Arequipa.
08   04 40 51.1* 36.239 S   97.607 W   10 G  5.0             1.0   39  WEST CHILE RISE
08   06 02 26.5* 1.839 S    77.971 W  167      4.3           0.8   13  ECUADOR
08   06 14 09.5  51.052 N  156.440 E  140 D  5.3             0.8  184  KAMCHATKA. Felt at Severo-Kurilsk, Kuril Islands.
08   06 44 03.4  39.250 N   22.869 E   10 G  3.9             0.8   19  GREECE. ML 3.5 (ATH).
08   07 48 07.4? 47.93  N  114.36  W    5 G                  0.4    8  MONTANA. ML 2.3 (MSO). Felt in the Big Fork and Echo
                                                                  Lake areas.
08   07 49 23.1? 47.93  N  114.34  W    5 G                  0.7    7  MONTANA. ML 2.8 (NEIS). Felt throughout the Kalispell
                                                                  Valley.
08   08 06 22.0* 8.718 N  122.169 E   33 N  4.0             1.1    8  MINDANAO, PHILIPPINE ISLANDS
08   08 28 29.2  39.250 N   22.805 E   10 G  4.2 4.2         1.0   63  GREECE. ML 4.4 (TIR), 4.1 (ATH). Felt.
08   08 45 28.8* 5.488 S   146.923 E  163      4.7           1.2    9  EAST PAPUA NEW GUINEA REGION
08   10 31 56.1* 35.265 N  140.685 E   33 N  5.1             1.0    9  NEAR EAST COAST OF HONSHU, JAPAN
08   12 24 21.7* 6.537 N   72.637 W  145                    0.2    8  NORTHERN COLOMBIA
08   13 42 40.6? 40.33  N   25.29  E   10 G                  0.8    8  AEGEAN SEA
08   13 16 36.4? 3.27  S  177.54  E   33 N  4.4             0.3   10  GILBERT ISLANDS REGION
08   14 11 00.6  51.848 N  176.089 W   68       4.8           1.0   79  ANDREANOF ISLANDS, ALEUTIAN IS. Felt on Adak.
08   21 50 06.1  44.498 N   10.765 E   10 G                  1.1   16  NORTHERN ITALY. ML 3.0 (CTI).
08   22 28 47.2  38.372 N   22.995 E   10 G                  0.5   11  GREECE. ML 3.0 (ATH).
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08   23 30 56.6& 38.097 N  118.917 W    5 G                                  15  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.7 (BRK),
                                                                                 3.3 (PAS).
08   23 57 32.5* 22.329 S  174.935 W   33 N  4.7        1.4   20  TONGA ISLANDS REGION
09   00 46 07.0  35.655 N  141.86& E   33 N  5.2 5.5     1.2   79  NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) in
                                                                    eastern Honshu.
     CMTS:  (HRV) B080982A   DATA:  GDSN            ;  L.P. BODY WAVES:  11S, 20C, T= 45;
     CENTROID LOCATION   OT  0:46: 9.4 0.5;  LAT 36.02N 0.09;  LON 141.00E 0.15;  DEP  15.0 FIX;          HALF-DURATION  1.6
     MT: Scale 10**24 d-cm; MRR= 0.23 0.15; MTT= 0.38 0.11; MFF=-0.61 0.20; MRT= 1.57 0.19; MRF= 3.14 0.22; MTF= 0.33 0.14
     PRINCIPAL AXES:  (T) VAL=  3.60; PLG=46; AZM=306;  (N) VAL= -0.07; PLG=10; AZM=206;  (P) VAL= -3.53;  PLG=43; AZM=107
     BEST DOUBLE COUPLE:       Mo= 3.6*10**24;    NP1:  STRIKE=125; DIP=10; SLIP=   9;   NP2:  STRIKE= 26; DIP=88; SLIP= 100
09   01 00 35.1   3.416 S  177.643 E   33 N  4.8        0.8   43  GILBERT ISLANDS REGION
09   02 00 14.6  43.558 N   28.856 W   10 G  4.8 4.7     0.9   64  NORTH ATLANTIC RIDGE
09   02 31 44.4  35.427 N  142.055 E   33 N  5.0 5.4     1.3   62  OFF EAST COAST OF HONSHU, JAPAN. Felt (I JMA) in
                                                                    eastern Honshu.
09   03 15 43.4   9.854 S  121.481 E   33 N  5.0         1.2   25  SAVU SEA
09   03 27 14.7  30.626 S   68.116 W   26    4.5         0.9   15  SAN JUAN PROVINCE, ARGENTINA
09   04 50 38.6  15.230 S   71.041 W  164    4.8         1.1   62  SOUTHERN PERU
09   05 02 34.4   4.642 S  151.764 E  163    5.4         0.7  100  NEW BRITAIN REGION
     CMTS:  (HRV) B080982B   DATA:  GDSN            ;  L.P. BODY WAVES:   7S, 17C, T= 45;
     CENTROID LOCATION   OT  5: 2:38.7 1.1;  LAT  4.48S 0.12;  LON 151.43E 0.13;  DEP 148.0 4.1;          HALF-DURATION  1.0
     MT: Scale 10**23 d-cm; MRR=-4.89 0.79; MTT= 4.34 1.08; MFF= 0.55 1.16; MRT=-3.38 0.76; MRF= 1.30 0.98; MTF= 7.34 1.27
     PRINCIPAL AXES:  (T) VAL= 10.27; PLG= 7; AZM=144;  (N) VAL= -2.06; PLG=44; AZM=241;  (P) VAL= -8.21;  PLG=45; AZM= 46
     BEST DOUBLE COUPLE:       Mo= 9.2*10**23;    NP1:  STRIKE=196; DIP=54; SLIP=-150;   NP2:  STRIKE= 87; DIP=66; SLIP= -40
09   07 35 26.9  35.575 N  141.850 E   59    4.7         1.1   27  NEAR EAST COAST OF HONSHU, JAPAN
09   08 59 16.6? 40.35  N   25.34  E   10 G                0.9    9  AEGEAN SEA
09   09 33 25.3   4.995 S  151.082 E  195    5.0         1.0   25  NEW BRITAIN REGION
09   10 46 14.7  12.715 S  166.161 E   33 D  5.5 5.6     1.1  104  SANTA CRUZ ISLANDS
     CMTS:  (HRV) B080982C   DATA:  GDSN            ;  L.P. BODY WAVES:  11S, 27C, T= 45;
     CENTROID LOCATION   OT 10:46:17.9 0.5;  LAT 12.88S 0.08;  LON 165.95E 0.07;  DEP  15.0 FIX;          HALF-DURATION  1.7
     MT: Scale 10**24 d-cm; MRR= 1.93 0.10; MTT=-0.41 0.13; MFF=-1.52 0.11; MRT=-0.04 0.30; MRF=-2.09 0.43; MTF= 0.69 0.10
     PRINCIPAL AXES:  (T) VAL=  2.95; PLG=64; AZM=103;  (N) VAL= -0.28; PLG=12; AZM=349;  (P) VAL= -2.67;  PLG=23; AZM=254
     BEST DOUBLE COUPLE:       Mo= 2.8*10**24;    NP1:  STRIKE=321; DIP=24; SLIP=  60;   NP2:  STRIKE=173; DIP=69; SLIP= 102
09   11 12 31.3& 35.180 N   92.240 W    4 G                                  11  ARKANSAS. <TEIC>. mbLg 3.2 (TUL). Felt in the Enola and
                                                                                 Naylor areas.
09   11 25 01.6? 52.946 N    3.557 W   10 G                                   7  UNITED KINGDOM. ML 2.9 (DLE).
09   12 47 54.6* 51.816 N  175.964 W   67    4.8         1.0   33  ANDREANOF ISLANDS, ALEUTIAN IS. Felt on Adak.
09   14 36 20.9  16.513 N   98.355 W   33 N  4.6         1.2   33  NEAR COAST OF GUERRERO, MEXICO
09   18 47 03.8   4.981 S  151.372 E  143    5.3         0.8  119  NEW BRITAIN REGION
     CMTS:  (HRV) B080982D   DATA:  GDSN            ;  L.P. BODY WAVES:  10S, 20C, T= 45;
     CENTROID LOCATION   OT 18:47: 3.6 1.3;  LAT  5.39S 0.12;  LON 151.40E 0.18;  DEP 135.9 5.1;          HALF-DURATION  1.0
     MT: Scale 10**23 d-cm; MRR=-9.27 1.29; MTT= 7.61 2.11; MFF= 1.66 2.56; MRT=-6.24 0.91; MRF= 0.27 1.64; MTF= 3.77 1.94
     PRINCIPAL AXES:  (T) VAL= 10.98; PLG=16; AZM=159;  (N) VAL=  0.50; PLG=13; AZM=252;  (P) VAL=-11.49;  PLG=70; AZM= 19
     BEST DOUBLE COUPLE:       Mo= 1.1*10**24;    NP1:  STRIKE=231; DIP=31; SLIP=-115;   NP2:  STRIKE= 79; DIP=62; SLIP= -76
09   21 09 38.2* 7.404 S  120.302 E  570    5.2         0.7   13  FLORES SEA
09   21 50 52.9  44.419 N   12.321 E   10 G                1.0   37  NORTHERN ITALY. ML 3.9 (GRF), 3.7 (TRI). Felt in
                                                                    northeastern Italy.
09   23 11 33.5? 6.36  S  147.41  E   84    4.1         1.3   10  EAST PAPUA NEW GUINEA REGION
09   23 27 31.9  18.785 S  169.171 E  229    5.0         1.1   81  VANUATU ISLANDS
10   02 11 29.6& 36.597 N  121.242 W    5 C  3.9              25  CENTRAL CALIFORNIA. <BRK>. ML 4.5 (BRK). Felt (IV) at
                                                                    Hollister, Gonzales, Pacific Grove, Monterey and
                                                                    Soledad. Felt in Monterey, San Benito, Santa Cruz and
10   02 24 00.3& 36.59d N  121.258 W    7 G                                     Fresno counties.
                                                                   13  CENTRAL CALIFORNIA. <BRK>. ML 3.5 (BRK). Felt at
                                                                    Hollister.
10   04 51 48.5   5.352 S   77.367 W   33 N  5.5         1.0  141  NORTHERN PERU
10   04 56 12.6  39.328 N  143.255 E   33 N  4.7 4.6     0.9   25  OFF EAST COAST OF HONSHU, JAPAN
10   05 00 36.9? 39.397 N   22.985 E   10 G                0.4    8  GREECE
10   07 21 12.1* 37.238 S   96.255 W   10 G  5.0         1.0   29  SOUTHERN PACIFIC OCEAN
10   08 23 59.8  10.677 N   62.611 W  104    4.6         0.9   88  NEAR COAST OF VENEZUELA. Felt (II) on Trinidad.
10   11 54 49.5   5.132 S  144.746 E   77    4.6         0.8   11  PAPUA NEW GUINEA
10   12 24 29.5? 39.96  N   71.08  E   33 N  4.5         1.7    7  TAJIK SSR. Felt (III) at Fergana.
10   12 25 23.9* 14.078 N   93.171 W   33 N  4.3         1.3   21  NEAR COAST OF CHIAPAS, MEXICO
10   14 38 45.8  39.218 N   22.851 E   10 G  4.6         0.7   17  GREECE. ML 4.2 (TIR), 3.5 (ATH).
10   16 25 39.3* 60.124 N  153.074 W  132    4.9         0.7   21  SOUTHERN ALASKA
10   16 46 37.6  46.487 S   95.867 E   10 G  5.0 5.4     1.0   16  SOUTHEAST INDIAN RISE
10   17 51 18.8   7.387 S  106.535 E   79    4.8         0.9   26  JAVA
10   18 37 04.2& 32.917 N  115.533 W   15 G                      11  CALIFORNIA-MEXICO BORDER REGION. <PAS-P>. ML 3.6 (PAS).
                                                                    Felt (IV) at El Centro, Imperial and Jacumba. Felt
                                                                    (III) at Heber and Seeley.
10   18 56 24.3   6.164 S  104.215 E   63    5.4         1.3  118  SUNDA STRAIT
10   19 12 20.2* 62.135 N  149.731 W   57                  1.1   19  CENTRAL ALASKA. Felt at Talkeetna.
10   19 35 46.2* 44.616 N  114.398 W    5 G                0.5   17  WESTERN IDAHO. ML 4.1 (NEIS). Felt (III) at Lemhi.
11   01 11 15.0? 12.11  N   88.58  W   33 N  4.1         1.4    7  OFF COAST OF CENTRAL AMERICA
11   01 14 12.3* 4.883  N   73.122 W   33 N               0.7    7  COLOMBIA
11   03 29 45.5* 42.892 N   13.240 E   10 G               1.3    5  CENTRAL ITALY. ML 3.3 (TRI), 3.1 (PIR).
11   03 41 08.3* 15.684 S   72.370 W  120                 1.3    9  SOUTHERN PERU
11   04 22 46.0* 28.948 S   71.430 W  124    3.7         1.5   11  NEAR COAST OF CENTRAL CHILE
11   04 33 03.2? 16.18  N   98.57  W   33 N               1.8    5  NEAR COAST OF GUERRERO, MEXICO
11   05 00 35.6* 39.352 N   23.010 E   10 G               1.0    7  AEGEAN SEA. ML 3.2 (ATH).
11   05 14 16.9? 15.10  S  173.70  W   33 N  4.6         1.6   13  TONGA ISLANDS
11   05 48 09.2* 17.666 S  178.644 W  529    4.7         0.8   26  FIJI ISLANDS REGION
11   06 07 55.4  39.363 N  143.240 E   33 N  4.8 4.8     1.0   61  OFF EAST COAST OF HONSHU, JAPAN
11   06 52 18.5& 46.541 N    2.917 E   10 G               1.0   10  FRANCE. ML 2.6 (LDG).
11   07 06 38.0? 3.08  S  130.60  E   33 N  4.4         1.7    5  CERAM
11   07 46 43.2& 36.63& N  121.308 W    9 G  4.6              44  CENTRAL CALIFORNIA. <BRK>. ML 4.6 (BRK). Felt (IV) in
                                                                    parts of San Benito, Monterey, Fresno and Santa Cruz
                                                                    counties.
11   07 58 02.8? 33.68  S   72.27  W   33 N               0.6    7  OFF COAST OF CENTRAL CHILE
11   08 08 50.1  19.482 S  173.034 W   33 N  5.1         0.9   36  TONGA ISLANDS
11   08 32 45.3* 43.361 N   12.826 E   16                 1.4   27  CENTRAL ITALY. ML 3.5 (TRI), 3.1 (PIR). Felt (V) in the
                                                                    Marche region.
11   09 04 35.9   8.309 N   39.664 W   10 G  4.8         0.7   47  CENTRAL MID-ATLANTIC RIDGE
11   09 05 36.0  39.348 N  143.259 E   35    5.1 5.0     1.0   88  OFF EAST COAST OF HONSHU, JAPAN
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11   09 12 17.8? 36.19  S   73.44  W   33 N                    0.7   10  NEAR COAST OF CENTRAL CHILE
11   10 28 42.3   8.777 S  123.985 E   33 N  5.5               1.2   42  FLORES ISLAND REGION
11   10 32 38.8& 37.253 N   88.730 W    5 G                          6  SOUTHERN ILLINOIS. <SLM>. mblg 3.0 (NEIS). Felt (III)
                                                                        at Metropolis.
11   10 42 37.9   3.064 S  130.302 E   21     5.6 5.4   1.2  121  CERAM
   CMTS:  (HRV) B081182A   DATA:  GDSN          ;  L.P. BODY WAVES:  11S, 28C, T= 45;
   CENTROID LOCATION   OT 10:42:42.3 0.6;  LAT  2.86S 0.07;  LON 130.21E 0.09;  DEP  38.0 5.9;        HALF-DURATION  1.6
   MT: Scale 10**24 d-cm; MRR= 2.18 0.19; MTT=-0.34 0.28; MFF=-1.64 0.31; MRT=-0.78 0.35; MRF= 2.76 0.49; MTF= 1.90 0.22
   PRINCIPAL AXES:  (T) VAL=  3.64; PLG=61; AZM=276;  (N) VAL=  0.58; PLG=16; AZM=155;  (P) VAL= -4.22;  PLG=23; AZM= 58
   BEST DOUBLE COUPLE:       Mo= 3.9*10**24;    NP1:  STRIKE=119; DIP=26; SLIP=  51;   NP2:  STRIKE=341; DIP=70; SLIP= 107
11   10 52 06.1* 3.010 S  130.405 E   33 N  5.4               1.4   43  CERAM
11   12 02 02.8  16.423 S  172.704 W   33 N  5.3 5.1          1.1   92  SAMOA ISLANDS REGION
11   12 58 24.6* 3.121 S  130.349 E   33 N  4.8               1.4   18  CERAM
11   13 26 51.3* 16.073 N   98.673 W   33 N                    1.2    8  NEAR COAST OF GUERRERO, MEXICO
11   13 32 44.4? 33.29  S   69.49  W  194                      0.2    7  CHILE-ARGENTINA BORDER REGION
11   15 00 00.0& 37.190 N  116.048 W    0 G                          7  SOUTHERN NEVADA. <DOE>. ML 3.3 (NEIS). 37° 11' 23.25"
                                                                        N., 116° 02' 51.66" W., Surface Elev. 1337 m., Depth of
                                                                        Burial 216 m., Shot Time 150000.000, "QUESO", Nevada
                                                                        Test Site (Dept. of Energy).
11   17 27 34.2? 17.67  S  178.04  W  518     4.5             1.0   10  FIJI ISLANDS REGION
11   17 47 46.6? 38.72  N  142.74  E   33 N  4.0               0.8    7  NEAR EAST COAST OF HONSHU, JAPAN
11   18 22 00.0? 38.93  N   23.16  E   10 G                    0.9    6  GREECE
11   19 05 37.0? 37.04  N  142.51  E   33 N  3.6               1.5    8  OFF EAST COAST OF HONSHU, JAPAN
11   19 13 40.9& 37.081 N   27.056 W   10 G                    0.4   12  AZORES ISLANDS
11   19 59 10.6  44.658 N    9.959 E    9                      1.1   24  NORTHERN ITALY. ML 3.8 (GRF), 3.3 (TRI).
11   20 31 46.8  24.233 S  179.726 W  486     5.2             1.1   71  SOUTH OF FIJI ISLANDS
11   22 55 13.9* 11.106 S  115.317 E   33 N  4.0               1.3    9  SOUTH OF BALI ISLAND
11   23 23 43.5* 3.036  S  130.336 E   33 N  4.7               1.7    8  CERAM
11   23 30 59.2* 21.780 S  175.145 E   33 N  5.0               1.1   15  SOUTH OF FIJI ISLANDS
11   23 55 49.3  15.757 N   95.818 W   33 N                    0.8   11  NEAR COAST OF OAXACA, MEXICO
12   00 26 12.0* 38.207 N   19.965 E   33 N  4.2               1.2   16  IONIAN SEA. ML 4.2 (ATH).
12   00 32 53.9? 35.97  N  141.37  E   33 N                    0.8    6  NEAR EAST COAST OF HONSHU, JAPAN
12   00 49 48.6* 35.976 N   24.240 E  120     4.0             1.4   21  CRETE
12   02 06 30.0* 19.792 N   72.442 W   33 N  4.6               1.1   15  HAITI REGION
12   02 13 08.6   4.354 S  153.158 E   45 D  5.9 6.4          1.2  206  NEW IRELAND REGION. Ms 6.1 (PAS). Felt at Rabaul, New
                                                                        Britain. [FS].
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=290;  DIP=82;  SLIP=  20.   NP2:  STRIKE=197;  DIP=70;  SLIP= 171
        PRINCIPAL AXES:   (T)  PLG=20;  AZM=155.   (P)  PLG= 8;  AZM= 62
                                                                        Moderately well controlled strike-slip fault type
                                                                        mechanism. NP to be designated as the fault plane not
                                                                        determined.
   MOMENT TENSOR SOLUTION.   NO OF STA   5.   SCALE 10**25 D-CM
   PRINCIPAL AXES:  (T) VAL=  4.93; PLG= 9; AZM=342;  (N) VAL=  1.08; PLG=80; AZM=143;  (P) VAL= -6.01;  PLG= 3; AZM=251
   BEST DOUBLE COUPLE:       Mo= 5.5*10**25;    NP1:  STRIKE= 26; DIP=81; SLIP= 176;   NP2:  STRIKE=117; DIP=86; SLIP=  9
   CMTS:  (HRV) C081282A   DATA:  GDSN          ;  L.P. BODY WAVES:  14S, 36C, T= 45;  MANTLE WAVES:  8S, 23C, T=135
   CENTROID LOCATION   OT  2:13:15.9 0.2;  LAT  3.99S 0.02;  LON 153.01E 0.02;  DEP  33.3 2.5;        HALF-DURATION  6.0
   MT: Scale 10**25 d-cm; MRR= 0.60 0.09; MTT= 4.43 0.11; MFF=-5.02 0.12; MRT=-2.18 6.25; MRF=-1.06 0.24; MTF= 2.81 0.09
   PRINCIPAL AXES:  (T) VAL=  6.21; PLG=23; AZM=164;  (N) VAL= -0.38; PLG=67; AZM=355;  (P) VAL= -5.83;  PLG= 4; AZM=256
   BEST DOUBLE COUPLE:       Mo= 6.0*10**25;    NP1:  STRIKE=302; DIP=71; SLIP=  14;   NP2:  STRIKE=207; DIP=77; SLIP= 160
12   04 33 00.1  34.899 N  139.484 E   34     5.3 5.4   0.9  143  NEAR S. COAST OF HONSHU, JAPAN. Felt (IV JMA) at Tokyo,
                                                                        Ajiro and Tateyama and (III JMA) at Yokohama and Kofu.
   CMTS:  (HRV) B081282B   DATA:  GDSN          ;  L.P. BODY WAVES:  7S, 18C, T= 45;
   CENTROID LOCATION   OT  4:33: 6.8 1.4;  LAT 34.25N 0.15;  LON 139.03E 0.16;  DEP 113.0 6.8;        HALF-DURATION  1.7
   MT: Scale 10**24 d-cm; MRR= 0.88 0.35; MTT=-0.46 0.69; MFF=-0.41 0.66; MRT=-0.34 0.37; MRF=-1.87 0.34; MTF=-3.69 0.58
   PRINCIPAL AXES:  (T) VAL=  3.72; PLG=23; AZM= 50;  (N) VAL=  0.87; PLG=61; AZM=191;  (P) VAL= -4.59;  PLG=16; AZM=313
   BEST DOUBLE COUPLE:       Mo= 4.1*10**24;    NP1:  STRIKE= 90; DIP=61; SLIP= 175;   NP2:  STRIKE=183; DIP=85; SLIP=  29
12   04 38 30.9? 3.16  S  177.34  E   33 N  4.5               0.5    6  GILBERT ISLANDS REGION
12   05 16 27.5? 3.43  S  177.51  E   33 N  4.6               0.6    9  GILBERT ISLANDS REGION
12   06 53 05.8& 36.628 N  121.300 W   10 G                          15  CENTRAL CALIFORNIA. <BRK>. ML 3.4 (BRK).
12   07 25 08.6* 15.565 N   93.382 W   33 N                    0.5   10  NEAR COAST OF CHIAPAS, MEXICO
12   08 22 28.4? 4.36  S  153.33  E   33 N  4.0               0.3    4  NEW IRELAND REGION. Felt (II) at Kokopo, New Britain.
12   08 27 29.0? 8.46  S   75.38  W   33 N                    1.5    6  PERU
12   08 41 49.3   1.568 S   24.291 W   10 G  5.2 5.6          1.1   63  CENTRAL MID-ATLANTIC RIDGE
   CMTS:  (HRV) B081282C   DATA:  GDSN          ;  L.P. BODY WAVES:  13S, 31C, T= 45;
   CENTROID LOCATION   OT  8:41:59.3 0.3;  LAT  1.13S 0.04;  LON  24.34W 0.04;  DEP  10.1 FIX;        HALF-DURATION  3.4
   MT: Scale 10**25 d-cm; MRR=-0.20 0.03; MTT= 0.32 0.04; MFF=-0.11 0.04; MRT= 0.72 0.12; MRF= 0.75 0.12; MTF=-1.01 0.03
   PRINCIPAL AXES:  (T) VAL=  1.14; PLG= 6; AZM= 36;  (N) VAL=  0.52; PLG=54; AZM=297;  (P) VAL= -1.66;  PLG=35; AZM=130
   BEST DOUBLE COUPLE:       Mo= 1.4*10**25;    NP1:  STRIKE=167; DIP=61; SLIP= -22;   NP2:  STRIKE=268; DIP=71; SLIP=-149
12   08 55 54.3* 34.108 S   70.162 W   33 N                    1.3   10  CHILE-ARGENTINA BORDER REGION
12   09 32 30.3? 9.27   N   82.32  W   33 N  4.6               0.3    8  PANAMA-COSTA RICA BORDER REGION
12   09 44 17.8* 39.333 N  143.448 E   33 N  4.3               0.6   10  OFF EAST COAST OF HONSHU, JAPAN
12   09 58 19.3* 55.747 N  156.811 W   33 N  4.9               1.1   21  SOUTH OF ALASKA. ML 4.0 (PMR).
12   10 03 15.5  3.386  S  177.569 E   33 N  5.5 5.4          0.8  125  GILBERT ISLANDS REGION
12   10 39 57.5  43.061 N   79.677 E   33 N  4.6               1.3   14  ALMA-ATA REGION
12   10 43 35.7& 19.415 N  155.268 W   16 G                          9  HAWAII. <HVO-P>. ML 4.1 (HVO). Felt.
12   10 45 48.2* 33.325 S   70.875 W   93                      0.6    7  CHILE-ARGENTINA BORDER REGION
12   11 36 15.7  39.396 N  143.295 E   33 N  5.1 4.9          0.9   83  OFF EAST COAST OF HONSHU, JAPAN
12   11 46 50.8  39.406 N  143.277 E   33 N  5.3 4.9          0.9  110  OFF EAST COAST OF HONSHU, JAPAN
12   12 35 16.3* 39.387 N  143.278 E   33 N  4.5 4.1          1.0   27  OFF EAST COAST OF HONSHU, JAPAN
12   12 51 32.4  36.339 N   70.428 E  220     4.5             0.8   18  HINDU KUSH REGION
12   14 31 19.2* 38.666 N   21.280 E   33 N                    1.1    9  GREECE. ML 3.1 (ATH).
12   14 33 38.8   2.490 N  126.726 E   56     5.2             1.1   79  MOLUCCA PASSAGE
12   15 52 51.0* 38.343 N   23.336 E   10 G                    0.9   13  GREECE. ML 3.3 (ATH).
12   18 37 34.5* 3.250  S  177.467 E   33 N  4.7               0.8   15  GILBERT ISLANDS REGION
12   18 51 23.7  35.685 N   73.595 E   22     4.8             1.0   59  NORTHWESTERN KASHMIR
12   23 53 16.8? 16.36  S   74.68  W   33 N                    1.4    8  NEAR COAST OF PERU
13   00 30 54.5  55.655 S   26.731 W   33 N  5.3 4.8          1.0   37  SOUTH SANDWICH ISLANDS REGION
13   01 06 41.0& 46.690 N   78.460 W   18 G  3.7                     26  SOUTHERN QUEBEC. <OTT>. mblg 4.4 (OTT). Felt (V) in
                                                                        parts of Ontario and Quebec.
13   02 23 57.1? 43.91  N  128.30  W   10 G  3.7               0.7    5  OFF COAST OF OREGON
13   03 30 12.3? 18.15  N  100.37  W   33 N                    1.7    5  GUERRERO, MEXICO
13   04 12 04.8* 26.355 S   27.373 E    5 G                    1.2    9  REPUBLIC OF SOUTH AFRICA
13   05 27 31.8* 7.615  S  127.981 E  149     4.7             1.4   16  BANDA SEA
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13   06 05 45.1    3.302 S  177.596 E    33 N  5.3 4.4    6.8   78  GILBERT ISLANDS REGION
13   07 02 37.0* 49.762 N    17.437 E    10 G               0.4    5  CZECHOSLOVAKIA
13   07 24 39.3* 11.823 S  117.161 E    33 N  3.2          0.7    5  SOUTH OF SUMBAWA ISLAND
13   11 11 04.5? 56.23  N  161.72  W    33 N               0.6    5  ALASKA PENINSULA. ML 3.9 (PNR).
13   11 27 05.4? 44.02  N  128.77  W    10 G  3.9          0.9   12  OFF COAST OF OREGON
13   11 39 07.9* 1.528 N   99.608 E   186      4.1        0.6    9  NORTHERN SUMATERA
13   13 36 43.3? 17.938 N  99.896 W    33 N               0.8    6  GUERRERO, MEXICO
13   13 57 07.7  10.519 N  93.707 E   120      4.8        1.1   21  ANDAMAN ISLANDS REGION
13   15 44 09.0* 31.322 S  68.441 W   124                 1.5    7  SAN JUAN PROVINCE, ARGENTINA
13   16 06 22.7* 13.259 N  90.698 W    33 N  4.5 4.6      1.1   44  NEAR COAST OF GUATEMALA
13   16 50 32.8? 33.4?  S  70.20  W   154                 2.0    5  CHILE-ARGENTINA BORDER REGION. Felt (II) at Santiago.
13   21 15 00.2  36.454 N  140.935 E    59      5.4        0.9  194  NEAR EAST COAST OF HONSHU, JAPAN
     CMTS: (HRV) B081382A   DATA: GDSN                ; L.P. BODY WAVES:  SS, 20C, T= 45;
     CENTROID LOCATION   OT 21:15: 5.3 0.6;  LAT 35.67N 0.09;  LON 142.20E 0.10;  DEP  10.4 FIX;          HALF-DURATION  1.6
     MT: Scale 10**23 d-cm; MRR= 8.48 0.58; MTT= 0.35 0.52; MFF=-8.83 0.80; MRT= 2.14 1.61; MRF= 6.91 1.83; MTF=-2.13 0.62
     PRINCIPAL AXES:  (T) VAL= 11.07; PLG=70; AZM=292;  (N) VAL=  0.79; PLG= 3; AZM=194;  (P) VAL=-11.86;  PLG=20; AZM=103
     BEST DOUBLE COUPLE:       Mo= 1.1*10**24;   NP1:  STRIKE=188; DIP=26; SLIP=  84;   NP2:  STRIKE= 15; DIP=65; SLIP=  93
13   22 18 12.3* 3.840 S  177.837 E    27 D  4.7          0.9   14  GILBERT ISLANDS REGION
13   23 39 19.3  39.354 N  143.302 E    29 D  4.9 4.4     1.1   57  OFF EAST COAST OF HONSHU, JAPAN
14   00 25 52.0  39.326 N  143.389 E    30 D  4.7         0.9   55  OFF EAST COAST OF HONSHU, JAPAN
14   00 50 24.7  39.281 N  143.428 E    29 D  4.9 4.7     0.9   70  OFF EAST COAST OF HONSHU, JAPAN
14   00 56 16.8* 39.592 N   22.891 E    10 G               0.3    8  GREECE
14   00 58 54.0  18.486 N  145.866 E   156 D  5.3         1.2   98  MARIANA ISLANDS
14   02 18 41.2* 47.538 N  155.234 E    33 N  4.5         0.9   11  KURIL ISLANDS REGION
14   02 37 59.1? 34.167 N  117.333 W     5 G                    15  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.1 (PAS). Felt at San
                                                                    Bernardino.
14   02 40 35.0* 16.777 N  100.214 W    33 N               1.4    7  NEAR COAST OF GUERRERO, MEXICO
14   02 55 35.1* 4.763 S    34.566 E    10 G  3.8          1.3    8  TANZANIA
14   03 10 55.8   6.857 N   77.812 W    11      5.2 4.3    1.0  113  NEAR WEST COAST OF COLOMBIA. Felt at Medellin.
14   04 51 29.4? 33.350 N  116.333 W    11 G                   9  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
14   05 13 50.2? 35.000 N  118.500 W    10 G                  16  CENTRAL CALIFORNIA. <PAS-P>. ML 3.6 (PAS).
14   05 29 40.5  10.101 S  160.666 E    33 N  5.1          1.0   41  SOLOMON ISLANDS
14   05 46 43.9* 15.271 N   94.772 W    38      4.4 3.4    0.8   26  NEAR COAST OF OAXACA, MEXICO
14   06 12 47.1* 17.417 N   94.839 W   159      3.8        0.3   14  CHIAPAS, MEXICO
14   07 53 48.8* 27.229 S   71.772 W    33 N               0.9   14  NEAR COAST OF NORTHERN CHILE
14   08 39 51.3* 33.360 S   71.378 W    33 N               1.3   11  NEAR COAST OF CENTRAL CHILE. Felt (III) at Santiago.
14   10 37 53.7* 40.217 N  120.271 W     5 G               0.8    6  NORTHERN CALIFORNIA. ML 3.2 (BRK).
14   10 45 27.8* 39.304 N   22.876 E    10 G               0.5   10  GREECE. ML 3.0 (ATH).
14   10 46 27.5* 39.270 N   22.842 E    10 G               0.7    7  GREECE. ML 3.1 (ATH).
14   10 51 39.9* 32.675 S   68.980 W   139                 0.2   10  MENDOZA PROVINCE, ARGENTINA
14   11 14 07.6* 15.315 N   94.708 W    49      4.4 3.6    1.1   36  NEAR COAST OF OAXACA, MEXICO
14   11 52 34.5* 15.257 N   94.736 W    33 N               0.8   12  NEAR COAST OF OAXACA, MEXICO
14   14 27 40.2   5.055 S  143.964 E   106      5.9        1.0  294  PAPUA NEW GUINEA. Felt on Manam. [FS].
     FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=120; DIP=63;  SLIP= 193.   NP2:  STRIKE= 24;  DIP=78;  SLIP= 332
     PRINCIPAL AXES:  (T)  PLG=10;  AZM= 75.   (P)  PLG=28;  AZM=339
                                                                    Moderately well controlled strike-slip fault type
                                                                    mechanism. NP to be designated as the fault plane not
                                                                    determined.
     CMTS: (HRV) B081482A   DATA: GDSN                ; L.P. BODY WAVES:  13S, 36C, T= 45;
     CENTROID LOCATION   OT 14:27:46.5 0.3;  LAT  5.12S 0.03;  LON 143.73E 0.04;  DEP 114.1 2.1;          HALF-DURATION  3.3
     MT: Scale 10**25 d-cm; MRR=-0.37 0.03; MTT=-0.70 0.05; MFF= 1.07 0.06; MRT=-0.78 0.03; MRF= 0.59 0.03; MTF=-0.34 0.04
     PRINCIPAL AXES:  (T) VAL=  1.46; PLG=24; AZM=252;  (N) VAL= -0.12; PLG=41; AZM=140;  (P) VAL= -1.34;  PLG=40; AZM=  4
     BEST DOUBLE COUPLE:       Mo= 1.4*10**25;   NP1:  STRIKE= 30; DIP=42; SLIP= -15;   NP2:  STRIKE=131; DIP=80; SLIP=-131
14   15 21 50.7* 6.491 S  130.153 E   155      4.3        1.4   10  BANDA SEA
14   18 22 00.9* 1.945 N  127.132 E   100      4.7        1.1   30  HALMAHERA
14   18 26 53.2* 31.352 S   68.784 W   107                 1.1    8  SAN JUAN PROVINCE, ARGENTINA
14   18 57 44.4* 16.835 S  174.211 W    68      4.7        1.1   26  TONGA ISLANDS
14   19 36 45.9* 13.838 N  120.633 E   113      4.2        1.3   13  MINDORO, PHILIPPINE ISLANDS
14   20 16 44.7* 23.434 S   66.849 W   220                 0.7    6  JUJUY PROVINCE, ARGENTINA
14   20 23 09.5  41.693 N  141.486 E    98      4.7        1.2   31  HOKKAIDO, JAPAN  REGION
14   20 43 09.4* 21.490 S   68.960 W    89                 0.5    5  CHILE-BOLIVIA BORDER REGION
14   20 44 19.2? 51.27  N   15.76  E    10 G               1.8    9  POLAND
14   21 09 17.7* 16.088 S  176.296 W   329      4.6        1.4   32  FIJI ISLANDS REGION
14   22 25 13.0? 17.647 N   98.495 W    33 N               1.3    5  GUERRERO, MEXICO
15   02 26 50.1? 11.70  S  114.71  E    33 N  4.1          0.5    7  SOUTH OF BALI ISLAND
15   02 48 30.7* 3.559 S   177.658 E    29 D  4.9          1.0   30  GILBERT ISLANDS REGION
15   02 56 23.6* 19.203 S  169.435 E    33 N  4.4          1.4   12  VANUATU ISLANDS
15   03 06 58.8? 17.953 S   34.824 E    10 G               0.3    5  MOZAMBIQUE
15   06 11 15.9  10.063 S   76.352 W   106      5.5        1.0  136  PERU
15   07 26 27.7   6.747 N   73.001 W   167      4.9        0.8   73  NORTHERN COLOMBIA. Felt at Bucaramanga.
15   09 10 52.5* 40.736 N   23.153 E    10 G               1.0   11  GREECE
15   10 27 06.5* 16.885 N   94.675 W   123                 0.4   14  OAXACA, MEXICO
15   10 43 05.4? 2.99   S  177.25  E    33 N  4.0          0.7    6  GILBERT ISLANDS REGION
15   10 45 40.2? 52.03  N  172.88  W    33 N               1.0    9  ANDREANOF ISLANDS, ALEUTIAN IS.
15   12 52 02.8* 58.958 N  154.450 W   152                 0.6   10  ALASKA PENINSULA
15   15 09 49.9  40.806 N   15.359 E    10 G  4.4          1.2   58  SOUTHERN ITALY. ML 4.8 (FIR), 4.7 (TRI). Slight damage
                                                                    at Avellino, San Gregorio Magno and in the
                                                                    Melfi-Salvano area. Felt in the Naples-Salerno area and
                                                                    in the Taranto area.
15   15 47 27.1* 65.015 N  162.068 W    33 N  4.4          0.7   12  ALASKA. ML 4.6 (PNR). Felt from Koyuk to Nome.
15   16 58 15.8  36.496 N  141.033 E    50 D  5.4 4.9     1.0  223  NEAR EAST COAST OF HONSHU, JAPAN. Felt (III JMA) at
                                                                    Fukushima, Mito and Onahama and (II JMA) at Choshi.
                                                                    Also felt (I JMA) at Tateyama, Kofu and Ishinomaki.
15   17 08 23.0  28.284 N  129.332 E    59      4.9        1.0   58  RYUKYU ISLANDS. Felt (II JMA) at Naze.
15   18 46 17.8? 27.86  S   26.61  E     5 G               1.2    7  REPUBLIC OF SOUTH AFRICA
15   18 58 11.2? 37.498 N  118.920 W     9 G                   17  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.6 (BRK),
                                                                    3.2 (PAS). Felt in the Mammoth Lakes, California area.
15   19 25 11.6* 42.444 N   13.408 E    10 G               1.3   16  CENTRAL ITALY. ML 3.6 (TRI), 3.3 (FIR).
15   20 4? 26.6* 11.451 S  166.464 E    33 N  4.5          1.6    7  SANTA CRUZ ISLANDS
15   22 55 29.4? 33.400 N  116.433 W    11 G                   10  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
16   00 23 56.5  40.455 N   23.419 E    10 G               0.7    8  GREECE
16   00 25 53.0  53.098 N  159.883 E    33 N  4.8          0.7   28  NEAR EAST COAST OF KAMCHATKA
16   01 13 20.6  36.489 N  142.726 E    28      4.5        1.1   32  OFF EAST COAST OF HONSHU, JAPAN
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16	01	27	00.0	6.160	S	129.451	E	214		5.2		1.1	57	BANDA SEA
16	02	26	11.2*	25.113	N	122.113	E	77		4.2		0.9	7	TAIWAN REGION
16	03	03	06.7*	53.485	N	35.418	W	10	G	4.5	4.3	0.6	22	NORTH ATLANTIC OCEAN
16	04	03	35.1%	15.380	N	60.576	W	33	N			0.2	7	LEEWARD ISLANDS
16	05	12	24.4	18.031	N	100.068	W	56		4.7		1.3	34	GUERRERO, MEXICO
16	06	32	58.8	14.375	N	91.603	W	76	D	5.0		1.1	143	GUATEMALA. Felt (IV) at San Salvador, El Salvador. Also felt in southern Guatemala.
16	07	21	26.9	19.709	S	178.144	W	596		5.1		1.1	126	FIJI ISLANDS REGION
16	07	59	19.4*	39.031	N	23.278	E	13				0.5	9	AEGEAN SEA. ML 3.0 (ATH).
16	08	03	57.4	3.463	S	177.610	E	33	N	4.8		0.8	35	GILBERT ISLANDS REGION
16	11	06	08.3*	40.748	N	23.146	E	10	G			0.5	6	GREECE
16	15	20	40.4*	40.749	N	23.148	E	10	G			0.8	9	GREECE
16	15	21	48.2	35.267	S	179.221	E	138		5.2		1.3	40	OFF E. COAST OF N. ISLAND, N.Z.
16	15	31	48.7	10.696	S	118.229	E	33	N			1.2	7	SOUTH OF SUMBAWA ISLAND
16	19	13	16.0*	31.327	S	69.730	W	33	N			0.3	7	SAN JUAN PROVINCE, ARGENTINA
16	19	41	59.5?	51.09	N	19.61	E	10	G			1.1	5	POLAND
16	20	58	20.7	51.783	N	174.057	W	49		5.4	4.6	0.9	175	ANDREANOF ISLANDS, ALEUTIAN IS. Felt (III) on Adak.
16	23	29	49.9	3.353	S	177.601	E	33	N	4.7		1.1	22	GILBERT ISLANDS REGION
17	00	08	08.6*	38.769	N	24.834	E	10	G			0.6	13	AEGEAN SEA. ML 3.5 (ATH).
17	00	16	18.2	2.631	N	126.246	E	89		5.0		1.1	26	MOLUCCA PASSAGE
17	04	49	25.0&	49.060	N	105.380	W	18	G	4.3			25	SASKATCHEWAN PROVINCE, CANADA. <PGC>. mbLg 3.9 (PGC). Felt (V) at Big Beaver.
17	04	53	17.9	3.463	S	177.622	E	33	N	4.8		0.8	21	GILBERT ISLANDS REGION
17	05	28	59.2	45.688	N	151.354	E	48		5.0	5.0	1.0	100	KURIL ISLANDS
17	06	56	15.9	4.495	S	143.268	E	109		4.5		1.4	14	PAPUA NEW GUINEA
17	07	54	14.4*	40.761	N	23.132	E	10	G			0.4	7	GREECE
17	08	37	33.2*	40.303	N	22.534	E	10	G			0.2	8	GREECE
17	09	40	26.4	17.989	N	120.764	E	33	N	5.1	4.7	1.0	79	LUZON, PHILIPPINE ISLANDS. Felt (V RF) at Pasuquin, (IV RF) at Santa.
17	13	33	45.5	57.928	S	25.305	W	33	N	5.2		0.9	19	SOUTH SANDWICH ISLANDS REGION
17	15	01	45.9*	12.994	N	146.378	E	33	N	4.7		1.2	10	SOUTH OF MARIANA ISLANDS
17	15	18	54.2*	2.828	S	177.676	E	33	N	4.8		1.1	15	GILBERT ISLANDS REGION
17	17	11	51.7*	51.301	N	15.530	E	10	G			1.1	8	POLAND. ML 3.5 (CRF).
17	18	24	04.6	9.543	N	84.161	W	47		5.4	5.5	1.2	172	COSTA RICA. Ms 5.8 (PAL). Felt (IV) at San Jose.

CMTS: (HRV) B081782A DATA: GDSN ; L.P. BODY WAVES: 12S, 29C, T= 45;
CENTROID LOCATION OT 18:24:10.1 0.3; LAT 9.24N 0.04; LON 83.54W 0.04; DEP 36.8 2.8; HALF-DURATION 2.3
MT: Scale 10**24 d-cm; MRR= 2.89 0.16; MTT=-5.50 0.22; MFF= 2.61 0.24; MRT= 3.64 0.46; MRF=-3.13 0.36; MTF= 0.97 0.18
PRINCIPAL AXES: (T) VAL= 6.26; PLG=50; AZM= 73; (N) VAL= 1.03; PLG=31; AZM=297; (P) VAL= -7.29; PLG=23; AZM=193
BEST DOUBLE COUPLE: Mo= 6.8*10**24; NP1: STRIKE=241; DIP=35; SLIP= 28; NP2: STRIKE=127; DIP=74; SLIP= 122

17	18	57	39.66	18.905	N	155.272	W	14	G				10	HAWAII. <HVO-P). ML 3.9 (HVO).
17	19	08	40.0	13.540	N	124.805	E	41		4.9		1.1	56	LUZON, PHILIPPINE ISLANDS
17	22	01	46.2*	39.272	N	25.664	E	10	G	3.6		0.7	18	AEGEAN SEA. ML 3.7 (ATH).
17	22	22	24.4	33.772	N	22.961	E	31	D	6.0	6.4	1.1	299	MEDITERRANEAN SEA. Ms 6.7 (BRK), 6.3 (PAS). Felt in southern Italy. [FS].

FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE=260; DIP=50; SLIP= 142. NP2: STRIKE= 17; DIP=62; SLIP= 47
PRINCIPAL AXES: (T) PLG=52; AZM=235. (P) PLG= 7; AZM=136
Moderately well controlled reverse fault type mechanism with a fair amount of strike-slip component. NP to be designated as the fault plane not determined.

MOMENT TENSOR SOLUTION. NO OF STA 11. SCALE 10**25 D-CM
PRINCIPAL AXES: (T) VAL= 4.70; PLG=69; AZM=331; (N) VAL= -1.76; PLG=10; AZM=214; (P) VAL= -2.94; PLG=18; AZM=121
BEST DOUBLE COUPLE: Mo= 3.8*10**25; NP1: STRIKE=196; DIP=28; SLIP= 69; NP2: STRIKE= 39; DIP=64; SLIP= 101
CMTS: (HRV) C081782B DATA: GDSN ; L.P. BODY WAVES: 13S, 38C, T= 45; MANTLE WAVES: 9S, 24C, T=135
CENTROID LOCATION OT 22:22:29.8 0.3; LAT 33.70N 0.03; LON 22.90E 0.03; DEP 23.4 1.3; HALF-DURATION 5.5
MT: Scale 10**25 d-cm; MRR= 3.59 0.09; MTT=-1.29 0.10; MFF=-2.29 0.09; MRT= 0.86 0.21; MRF= 1.30 0.21; MTF=-1.89 0.08
PRINCIPAL AXES: (T) VAL= 3.90; PLG=78; AZM=300; (N) VAL= 0.16; PLG= 1; AZM= 37; (P) VAL= -4.07; PLG=11; AZM=127
BEST DOUBLE COUPLE: Mo= 4.0*10**25; NP1: STRIKE=219; DIP=34; SLIP= 93; NP2: STRIKE= 36; DIP=57; SLIP= 88

17	22	55	46.9	9.250	S	157.661	E	33	N	5.4	5.7	1.2	55	SOLOMON ISLANDS
17	23	21	15.5*	9.608	N	84.215	W	53		4.7		0.5	11	COSTA RICA. Felt (III) at San Jose.
18	00	05	46.4*	53.076	N	163.916	W	44	D	4.7		1.1	26	UNIMAK ISLAND REGION
18	03	58	20.8	18.070	N	105.577	W	38		5.0	5.2	1.1	70	OFF COAST OF JALISCO, MEXICO
18	04	51	00.6*	21.534	N	120.632	E	33	N	4.6		0.8	13	TAIWAN REGION
18	08	29	38.6*	16.972	N	100.154	W	33	N	3.4		1.3	10	NEAR COAST OF GUERRERO, MEXICO
18	08	43	49.7&	37.025	N	121.745	W	12	G	4.3			27	CENTRAL CALIFORNIA. <BRK>. ML 4.5 (BRK). Felt (V) at Freedom and New Almaden. Felt (IV) in parts of Santa Cruz, Santa Clara, Monterey, San Mateo, San Benito, Contra Costa and San Francisco counties.
18	09	23	28.9?	18.72	N	105.54	W	141		4.0		1.1	10	OFF COAST OF JALISCO, MEXICO
18	09	35	45.0%	16.863	N	96.921	W	33	N			1.0	5	OAXACA, MEXICO
18	11	58	43.9	24.063	S	66.873	W	171		4.4		1.2	8	SALTA PROVINCE, ARGENTINA
18	12	01	56.9	37.396	N	72.360	E	33	N	4.8	3.7	1.2	37	TAJIK SSR. Felt (IV) at Khorog, (III) at Ishkashim.
18	14	10	03.3*	39.296	N	20.274	E	12		3.4		0.8	17	GREECE-ALBANIA BORDER REGION. ML 4.0 (ATH).
18	14	32	32.6*	41.951	N	23.290	E	24				1.2	11	GREECE-BULGARIA BORDER REGION
18	15	22	18.4%	15.608	N	61.201	W	33	N			1.3	8	LEEWARD ISLANDS
18	16	55	00.5%	45.311	N	6.159	E	10	G			0.7	9	FRANCE
18	17	41	38.4*	11.619	S	115.004	E	33	N	4.0		1.5	8	SOUTH OF BALI ISLAND
18	18	01	08.3	27.083	N	89.494	E	58		4.6		1.3	18	BHUTAN
18	18	21	00.7	3.369	S	177.668	E	33	N	5.2	4.4	0.8	70	GILBERT ISLANDS REGION
18	20	28	28.1	39.253	N	143.534	E	30	D	5.1	5.2	1.1	113	OFF EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at Miyako.
18	20	50	45.3*	39.545	N	143.357	E	41		4.8		0.9	37	OFF EAST COAST OF HONSHU, JAPAN
18	21	34	48.6	3.757	S	102.193	E	78		5.2		1.1	83	SOUTHERN SUMATERA
18	23	33	28.0	3.327	S	68.080	E	10	G	4.5		1.0	12	CHAGOS ARCHIPELAGO REGION
18	23	38	29.3*	8.722	N	126.492	E	33	N			1.3	5	MINDANAO, PHILIPPINE ISLANDS
19	01	14	16.0	26.183	N	104.412	E	33	N	4.1		1.5	9	EASTERN CHINA
19	03	04	35.9*	28.005	S	26.785	E	5	G			1.5	7	REPUBLIC OF SOUTH AFRICA
19	03	36	49.2	42.072	N	139.388	E	188		4.6		1.1	44	HOKKAIDO, JAPAN REGION
19	04	40	48.2	19.067	S	169.578	E	39		5.6	5.3	1.1	138	VANUATU ISLANDS

CMTS: (HRV) B081982A DATA: GDSN ; L.P. BODY WAVES: 13S, 29C, T= 45;
CENTROID LOCATION OT 4:40:50.9 0.6; LAT 18.97S 0.10; LON 170.29E 0.08; DEP 10.4 FIX; HALF-DURATION 1.8
MT: Scale 10**24 d-cm; MRR=-1.46 0.13; MTT= 1.40 0.19; MFF= 0.06 0.19; MRT= 1.21 0.48; MRF= 3.45 0.45; MTF=-1.10 0.14
PRINCIPAL AXES: (T) VAL= 2.84; PLG=37; AZM=263; (N) VAL= 1.83; PLG=15; AZM= 5; (P) VAL= -4 LG=49; AZM=113
BEST DOUBLE COUPLE: Mo= 3.8*10**24; NP1: STRIKE=297; DIP=16; SLIP=-159; NP2: STRIKE=1 =84; SLIP= -75

19	06 07 01.1*	33.535 S	68.763 W	29				0.6	11	MENDOZA PROVINCE, ARGENTINA
19	06 08 15.1*	16.458 N	99.678 W	62		4.1		1.2	14	NEAR COAST OF GUERRERO, MEXICO
19	08 12 22.3	43.275 N	142.252 E	174		4.7		1.1	33	HOKKAIDO, JAPAN REGION
19	08 38 00.4	27.872 S	69.062 W	169		3.9		1.3	16	NORTHERN CHILE
19	09 24 46.5?	40.20 N	124.48 W	10 G				0.9	7	NEAR COAST OF NORTHERN CALIF. ML 3.0 (BRK).
19	11 02 24.0	42.191 N	142.730 E	64		4.5		1.3	23	HOKKAIDO, JAPAN REGION. Felt (II JMA) at Urakawa and Obihiro, (I JMA) at Kushiro.
19	11 04 18.1*	37.702 N	121.965 W	10 G				0.9	13	CENTRAL CALIFORNIA. ML 2.9 (BRK). Felt in central and southern Alameda County.
19	11 46 22.6	39.784 N	24.567 E	10 G				0.3	8	AEGEAN SEA
19	14 06 13.1	26.225 S	28.218 E	5 G				1.1	8	REPUBLIC OF SOUTH AFRICA
19	14 31 27.6	39.153 N	25.318 E	10 G				0.7	17	AEGEAN SEA. ML 3.7 (ATH).
19	14 31 28.9	36.736 N	71.188 E	216		4.1		0.5	10	AFGHANISTAN-USSR BORDER REGION
19	14 46 27.9	52.201 N	169.510 W	33 N	5.2	4.0		0.9	94	FOX ISLANDS, ALEUTIAN ISLANDS
19	15 59 01.5	6.718 N	82.680 W	10 G	6.2	6.5		1.2	199	SOUTH OF PANAMA. Ms 7.0 (BRK), 6.6 (PAL), 6.2 (PAS). Three people injured in Costa Rica. Minor damage in Costa Rica and Panama. Felt throughout Costa Rica and along the southern coast of Panama from David to Panama City. [FS].

FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE=255; DIP=83; SLIP= 355. NP2: STRIKE=346; DIP=85; SLIP= 187
PRINCIPAL AXES: (T) PLG= 1; AZM=120. (P) PLG= 9; AZM=210
Moderately well controlled strike-slip fault type mechanism. NP2 designated as the fault plane.

MOMENT TENSOR SOLUTION. NO OF STA 8. SCALE 10**26 D-CM
PRINCIPAL AXES: (T) VAL= 1.80; PLG=11; AZM=136; (N) VAL= -0.23; PLG=79; AZM=331; (P) VAL= -1.58; PLG= 3; AZM=226
BEST DOUBLE COUPLE: Mo= 1.7*10**26; NP1: STRIKE=271; DIP=80; SLIP= 6; NP2: STRIKE=181; DIP=84; SLIP= 170
CMTS: (HRV) C0819828 DATA: GDSN ; L.P. BODY WAVES: 15S, 44C, T= 45; MANTLE WAVES: 10S, 28C, T=135
CENTROID LOCATION OT 15:59:12.7 0.2; LAT 6.62N 0.02; LON 82.15W 0.02; DEP 25.3 1.8; HALF-DURATION 8.0
MT: Scale 10**26 d-cm; MRR= 0.02 0.02; MTT=-0.22 0.02; MFF= 0.19 0.03; MRT=-0.14 0.07; MRF= 1.15 0.12; MTF= 1.50 0.02
PRINCIPAL AXES: (T) VAL= 1.87; PLG=25; AZM=304; (N) VAL= 0.07; PLG=53; AZM=176; (P) VAL= -1.95; PLG=26; AZM= 47
BEST DOUBLE COUPLE: Mo= 1.9*10**26; NP1: STRIKE= 86; DIP=53; SLIP= 0; NP2: STRIKE=176; DIP=90; SLIP=-143

19	16 33 25.6	3.418 S	177.672 E	33 N	5.1			0.8	51	GILBERT ISLANDS REGION
19	16 56 27.3*	5.076 S	125.091 E	33 N	5.7			1.4	7	BANDA SEA
19	18 45 38.2	21.553 S	68.201 W	106		4.6		1.4	19	CHILE-BOLIVIA BORDER REGION
19	18 46 43.1	17.174 N	120.218 E	62		4.9		1.1	62	LUZON, PHILIPPINE ISLANDS. Felt (V RF) at Santa, (IV RF) at Laoag and Pasuquin.
19	19 25 16.3	39.517 N	143.342 E	49		4.7		1.0	43	OFF EAST COAST OF HONSHU, JAPAN
19	20 05 48.8	0.090 S	121.652 E	45		5.1		1.1	50	MINAHASSA PENINSULA
19	20 34 58.3	3.295 S	130.250 E	33 N	4.0			1.1	13	CERAM
19	23 23 06.9?	47.360 N	0.720 W	10 G				1.2	14	FRANCE
20	00 30 41.0*	31.528 S	68.661 W	120				0.8	10	SAN JUAN PROVINCE, ARGENTINA
20	03 21 53.1*	27.099 S	176.470 W	33 N	4.9	4.6		1.5	29	KERMADEC ISLANDS REGION
20	05 21 46.9*	34.936 N	140.411 E	79		4.8		0.7	13	NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at Yokohama, Tateyama, and Ajiro.
20	08 51 20.5?	19.748 N	156.028 W	8 G					9	HAWAII. <HVO-P>. ML 3.8 (HVO). Felt.
20	09 37 20.9	39.541 N	143.362 E	51		4.6	4.1	1.1	40	OFF EAST COAST OF HONSHU, JAPAN
20	10 11 46.2?	47.508 N	5.754 E	10 G				1.5	5	FRANCE
20	11 38 03.1	39.509 N	143.376 E	41		4.9	4.6	0.9	65	OFF EAST COAST OF HONSHU, JAPAN
20	12 07 03.0*	50.788 N	155.617 E	33 N	5.0			0.5	35	KURIL ISLANDS
20	12 57 33.3	23.604 N	32.562 E	10 G	4.7			1.0	28	ARAB REPUBLIC OF EGYPT. Felt at Aswan.
20	13 49 49.0	53.600 N	158.633 E	142 D	5.3			0.8	176	NEAR EAST COAST OF KAMCHATKA. Felt (III) at Petropavlovsk-Kamchatskiy.
20	14 17 57.4	30.381 N	68.128 E	33 N	4.9			1.0	75	PAKISTAN
20	17 59 35.7*	7.698 N	74.171 W	33 N				1.3	8	NORTHERN COLOMBIA
20	18 21 30.9	13.970 N	146.571 E	50		4.6		0.8	32	SOUTH OF MARIANA ISLANDS
20	19 36 54.5*	36.463 N	141.152 E	52		3.9		0.8	10	NEAR EAST COAST OF HONSHU, JAPAN
20	21 28 05.0	13.930 N	90.914 W	81		5.3		1.1	136	NEAR COAST OF GUATEMALA. Felt (III) in El Salvador.
21	02 38 23.2	33.441 S	70.836 W	55				0.3	9	CHILE-ARGENTINA BORDER REGION
21	04 26 22.8*	25.054 N	92.337 E	33 N	4.7			1.1	28	INDIA-BANGLADESH BORDER REGION
21	05 06 09.2	8.459 S	120.526 E	33 N	5.3	4.9		1.2	50	FLORES ISLAND REGION
21	05 46 24.8	62.392 N	152.150 W	16		4.0		0.8	19	CENTRAL ALASKA. ML 3.9 (PMR).
21	05 46 01.6*	15.899 S	26.017 E	10 G	4.5			1.3	12	ZAMBIA
21	05 52 50.4&	31.767 N	116.000 W	6 G					5	BAJA CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
21	09 32 30.0	3.756 S	135.518 E	28		5.4		0.9	49	WEST IRIAN REGION
21	09 46 33.4	2.653 N	128.233 E	76		5.3		1.1	54	HALMAHERA
21	10 20 42.4&	33.250 N	116.417 W	2 G					12	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.4 (PAS). Felt at Borrego.
21	13 33 44.7	2.878 N	126.633 E	79		4.7		0.9	16	MOLUCCA PASSAGE
21	13 44 53.8?	15.888 N	60.655 W	33 N				0.2	8	LEEWARD ISLANDS
21	14 29 19.4*	40.489 N	51.341 E	33 N	4.6			1.2	14	CASPIAN SEA
21	14 31 26.4&	37.677 N	121.967 W	10 G					12	CENTRAL CALIFORNIA. <BRK>. ML 3.3 (BRK). Felt at Dublin.
21	15 38 03.3*	3.681 S	177.841 E	33 N	5.0			1.0	33	GILBERT ISLANDS REGION
21	16 01 01.9*	39.837 N	24.565 E	10 G				0.4	9	AEGEAN SEA
21	16 07 41.0	3.386 S	177.710 E	29 D	5.2			0.9	94	GILBERT ISLANDS REGION
21	19 20 36.7*	53.571 N	163.646 W	38 D	5.0	4.7		1.1	116	UNIMAK ISLAND REGION
21	20 45 26.2	3.511 S	177.714 E	33 N	4.8			1.2	30	GILBERT ISLANDS REGION
22	03 42 36.1	20.553 S	169.451 E	34 D	5.6	5.1		1.1	179	VANUATU ISLANDS [FS]

FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE=165; DIP=50; SLIP= 90. NP2: STRIKE=345; DIP=40; SLIP= 90
PRINCIPAL AXES: (T) PLG=85; AZM= 75. (P) PLG= 5; AZM=255
Poorly controlled reverse fault type mechanism. NP2 designated as the fault plane.

MOMENT TENSOR SOLUTION. NO OF STA 6. SCALE 10**24 D-CM
PRINCIPAL AXES: (T) VAL= 3.36; PLG=87; AZM= 96; (N) VAL= -0.01; PLG= 1; AZM=354; (P) VAL= -3.36; PLG= 3; AZM=264
BEST DOUBLE COUPLE: Mo= 3.4*10**24; NP1: STRIKE=354; DIP=42; SLIP= 89; NP2: STRIKE=175; DIP=48; SLIP= 91
CMTS: (HRV) B082282A DATA: GDSN ; L.P. BODY WAVES: 8S, 23C, T= 45;
CENTROID LOCATION OT 3:42:44.9 0.4; LAT 20.72S 0.06; LON 168.87E 0.04; DEP 56.3 3.1; HALF-DURATION 2.0
MT: Scale 10**24 d-cm; MRR= 2.99 0.13; MTT=-0.36 0.20; MFF=-2.63 0.17; MRT=-0.56 0.15; MRF= 0.30 0.19; MTF= 0.96 0.13
PRINCIPAL AXES: (T) VAL= 3.08; PLG=81; AZM=190; (N) VAL= -0.06; PLG= 8; AZM=339; (P) VAL= -3.02; PLG= 5; AZM= 69
BEST DOUBLE COUPLE: Mo= 3.1*10**24; NP1: STRIKE=167; DIP=41; SLIP= 102; NP2: STRIKE=332; DIP=50; SLIP= 80

22	04 25 16.9&	37.492 N	118.890 W	5 G					15	CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. ML 3.7 (BRK), 3.2 (PAS). Felt in the Mammoth Lakes, California area.
22	06 22 52.0	13.407 N	90.873 W	60		4.3		1.4	29	NEAR COAST OF GUATEMALA

22	07 36 36.3	41.514 N	144.504 E	19		4.6 4.4	0.9	23	HOKKAIDO, JAPAN REGION. Felt (I JMA) at Kushiro.
22	09 03 21.5	33.212 N	54.922 E	31		4.6 3.7	1.3	38	IRAN
22	09 12 07.3*	33.015 S	71.406 W	23			0.3	7	NEAR COAST OF CENTRAL CHILE
22	09 28 28.0*	39.594 N	20.400 E	25		4.5	1.2	34	GREECE-ALBANIA BORDER REGION. ML 4.0 (ATH).
22	09 39 38.4	73.143 N	5.964 E	10 G		4.8	1.1	45	GREENLAND SEA
22	10 07 49.1	73.284 N	6.320 E	10 G		4.5	1.2	35	GREENLAND SEA
22	14 07 27.2*	6.966 N	82.673 W	10 G		4.5 4.1	1.4	17	SOUTH OF PANAMA
22	14 50 11.4	20.071 N	121.083 E	33 N		4.5	1.4	16	PHILIPPINE ISLANDS REGION
22	15 23 21.3	51.658 N	176.784 W	59		5.1	1.0	85	ANDREANOF ISLANDS, ALEUTIAN IS. Felt (III) on Adak.
22	15 44 21.3	61.617 N	149.668 W	39			0.4	15	SOUTHERN ALASKA. ML 3.2 (PMR). Felt in the Palmer-Wasilla area.
22	16 26 41.1*	2.098 S	137.230 E	33 N		4.4	1.4	12	WEST IRIAN
22	17 46 03.2*	16.852 N	61.168 W	51		4.3	0.3	12	LEEWARD ISLANDS
22	18 25 06.7*	3.391 S	177.624 E	33 N		4.5	0.8	8	GILBERT ISLANDS REGION
22	20 45 01.2*	7.569 S	128.965 E	175			0.7	7	BANDA SEA
22	23 00 35.8*	39.413 N	20.363 E	18		4.0	1.2	27	GREECE-ALBANIA BORDER REGION. ML 3.8 (ATH).
23	02 43 04.2*	49.747 N	77.971 E	0 G		4.7	0.9	41	EASTERN KAZAKH SSR
23	02 59 43.4*	31.307 S	69.637 W	164			0.8	6	SAN JUAN PROVINCE, ARGENTINA
23	03 44 51.4*	72.604 N	8.127 E	10 G		4.2	1.1	12	NORWEGIAN SEA
23	03 53 19.9*	26.970 N	128.818 E	64		4.3	1.2	19	RYUKYU ISLANDS
23	03 58 55.9	24.293 N	125.261 E	47		4.7	1.1	19	SOUTHWESTERN RYUKYU ISLANDS
23	05 50 08.4	37.773 N	141.351 E	91		5.1	1.0	163	NEAR EAST COAST OF HONSHU, JAPAN. Felt (III JMA) at Fukushima, (II JMA) at Mito and (I JMA) at Tokyo.
23	08 38 42.5*	14.952 S	73.945 W	46		4.5	1.1	11	PERU
23	12 18 47.3*	46.180 N	13.435 E	10 G			0.8	4	AUSTRIA. ML 2.4 (KBA). Felt (III) at Kobarid, Yugoslavia.
23	12 47 42.0	5.818 S	128.721 E	322		5.3	1.0	29	BANDA SEA
23	15 18 55.8*	44.840 S	81.830 W	10 G		5.1 4.7	0.5	15	WEST CHILE RISE
23	15 29 37.0	26.384 S	27.296 E	5 G			1.2	9	REPUBLIC OF SOUTH AFRICA. Felt at Vredefort.
23	16 17 13.3*	62.138 N	150.862 W	106			1.2	15	CENTRAL ALASKA
23	16 40 19.4	36.354 N	141.484 E	36 D		5.8 5.6	1.0	273	NEAR EAST COAST OF HONSHU, JAPAN. Felt (III JMA) in the Fukushima-Mito area, (II JMA) at Sendai, Ibaraki and Nikko, and (I JMA) at Morioka, Maebashi, Tokyo and Yokohama.

FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE= 30; DIP=73; SLIP= 75. NP2: STRIKE=253; DIP=23; SLIP= 130
PRINCIPAL AXES: (T) PLG=59; AZM=279. (P) PLG=27; AZM=132
Poorly controlled reverse fault type mechanism with a small component of strike-slip. NP2 designated as the fault plane.

MOMENT TENSOR SOLUTION. NO OF STA 3. SCALE 10**24 D-CM
PRINCIPAL AXES: (T) VAL= 2.56; PLG=87; AZM=192; (N) VAL= -0.02; PLG= 3; AZM= 2; (P) VAL= -2.54; PLG= 0; AZM= 93
BEST DOUBLE COUPLE: Mo= 2.6*10**24; NP1: STRIKE=185; DIP=45; SLIP= 94; NP2: STRIKE=360; DIP=46; SLIP= 86
CMTS: (HRV) B082362A DATA: CDSN ; L.P. BODY WAVES: 125, 29C, T= 45;
CENTROID LOCATION OT 16:40:23.7 0.4; LAT 35.76N 0.05; LON 142.71E 0.08; DEP 10.3 2.4; HALF-DURATION 1.8
MT: Scale 10**24 d-cm; MRR= 1.98 0.08; MTT=-0.11 0.09; MFF=-1.87 0.12; MRT=-0.37 0.31; MRF=-0.08 0.36; MTF=-1.15 0.09
PRINCIPAL AXES: (T) VAL= 2.05; PLG=79; AZM=191; (N) VAL= 0.40; PLG=11; AZM= 27; (P) VAL= -2.45; PLG= 3; AZM=297
BEST DOUBLE COUPLE: Mo= 2.3*10**24; NP1: STRIKE= 15; DIP=43; SLIP= 74; NP2: STRIKE=217; DIP=49; SLIP= 104

23	18 59 49.3*	45.081 S	82.080 W	10 G		4.9 4.7	1.2	22	OFF COAST OF SOUTHERN CHILE
23	20 34 38.0	6.871 S	130.413 E	114		5.3	1.0	101	BANDA SEA
23	21 35 05.9*	29.040 S	111.776 W	10 G		5.1 5.0	1.1	37	EASTER ISLAND REGION
23	22 34 41.7*	37.495 N	118.877 W	5 G			1.0	10	CALIFORNIA-NEVADA BORDER REGION. ML 3.3 (BRK).
23	22 46 05.5	32.095 N	140.710 E	68 D		5.4	1.1	171	SOUTH OF HONSHU, JAPAN. mb 5.5 (BRK). Felt (I JMA) on Hachijo-jima.
23	23 39 18.6*	3.170 S	129.339 E	85		4.2	0.9	7	CERAM
24	00 16 51.1	36.209 N	140.717 E	33 N			0.6	7	NEAR EAST COAST OF HONSHU, JAPAN
24	00 49 21.5?	16.12 N	98.18 W	33 N			1.5	8	NEAR COAST OF GUERRERO, MEXICO
24	01 27 37.6	44.865 S	81.452 W	10 G		5.2 4.3	1.5	11	WEST CHILE RISE
24	01 33 28.3*	44.893 S	81.816 W	10 G		4.9 4.3	1.1	22	WEST CHILE RISE
24	04 09 15.6	53.645 N	165.437 W	33 N		5.3 4.8	0.9	162	FOX ISLANDS, ALEUTIAN ISLANDS. Ms 4.7 (BRK). Felt (IV) at Unalaska.
24	05 09 08.0	29.099 S	13.014 W	10 G		4.9 4.8	0.9	38	SOUTH ATLANTIC RIDGE
24	05 25 38.2	37.251 N	75.115 E	63		4.7	0.8	25	TAJIK-SINKIANG BORDER REGION
24	07 27 36.0&	37.540 N	118.890 W	5 G				16	CALIFORNIA-NEVADA BORDER REGION. (BRK). ML 3.3 (BRK), 3.1 (PAS). Felt in the Mammoth Lakes, California area.
24	08 21 45.3	7.461 S	129.075 E	124		5.0	1.1	14	BANDA SEA
24	08 46 54.2*	0.646 N	98.716 E	92		4.5	1.3	18	NORTHERN SUMATERA
24	10 52 25.2*	1.335 N	97.640 E	77		3.9	0.8	7	NORTHERN SUMATERA
24	14 09 15.5*	51.559 N	7.364 E	10 G			0.8	6	GERMANY. ML 2.6 (BNS).
24	15 01 17.1*	20.027 S	177.840 W	516		4.3	0.6	10	FIJI ISLANDS REGION
24	15 59 57.0	2.800 S	136.818 E	33 N		3.7	0.6	5	WEST IRIAN REGION
24	16 01 32.7	1.721 S	136.263 E	33 N		5.4 5.0	1.0	98	WEST IRIAN REGION. Felt on Yapen.
24	18 15 09.0	6.445 N	124.101 E	51		4.7	1.1	30	MINDANAO, PHILIPPINE ISLANDS
24	19 13 29.8*	19.411 S	174.055 W	33 N		4.5	0.7	10	TONGA ISLANDS
24	19 48 14.3	40.046 N	72.577 E	33 N		4.7	1.0	13	KIRGHIZ SSR. Felt (IV) at Osh and (II) at Andizhan.
24	21 43 39.9*	3.374 S	177.395 E	28 D		5.3	0.8	50	GILBERT ISLANDS REGION
24	22 33 36.6&	37.468 N	121.815 W	6 G				17	CENTRAL CALIFORNIA. (BRK). ML 4.0 (BRK). Felt (V) at San Jose. Also felt at Milpitas, Morgan Hill, Mount Hamilton, Boulder Creek, Santa Clara and San Rafael.
24	23 38 04.6*	17.548 S	178.892 W	566		4.1	1.1	19	FIJI ISLANDS REGION
25	01 15 26.7	6.506 S	129.951 E	192		4.9	1.1	18	BANDA SEA
25	04 32 34.7	27.730 S	72.527 W	33 N			0.8	5	OFF COAST OF NORTHERN CHILE
25	09 46 59.6*	14.005 N	90.761 W	33 N		4.5 3.7	1.2	19	GUATEMALA
25	12 28 33.0	7.709 S	127.621 E	182		4.8	1.4	25	BANDA SEA
25	14 04 33.2	6.559 S	128.855 E	246		5.4	1.2	20	BANDA SEA
25	15 05 17.8	60.204 N	139.512 W	15 G		4.7	1.1	68	SOUTHEASTERN ALASKA. ML 5.1 (PMR).
25	16 03 08.9*	48.376 N	152.488 E	33 N		4.8	0.3	36	KURIL ISLANDS
25	20 00 44.6*	62.662 N	149.634 W	14			0.2	9	CENTRAL ALASKA. ML 3.6 (PMR).
25	20 58 59.2*	43.129 N	0.297 W	10 G			0.9	19	PYRENEES. ML 4.3 (LDG).
25	21 12 24.7	62.089 N	149.701 W	56			0.6	10	CENTRAL ALASKA
26	02 10 20.6*	18.253 N	60.015 W	30			0.5	8	LEEWARD ISLANDS
26	05 22 59.6	2.692 S	79.871 W	70 D		5.8	0.9	233	NEAR COAST OF ECUADOR. mb 5.6 (BRK). Felt (VI) in the Guayaquil area and (III) at Quito. Also felt in northern Peru. [FS].

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      FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE= 30;  DIP=75;  SLIP= 140.   NP2:  STRIKE=132;  DIP=52;  SLIP=  19
      PRINCIPAL AXES:   (T)  PLG=39;  AZM=344.   (P)  PLG=15;  AZM= 86
                                                                                  Poorly controlled strike-slip fault type mechanism. NP
                                                                                  to be designated as the fault plane not determined.
   MOMENT TENSOR SOLUTION.   NO OF STA   8.   SCALE 10**25 D-CM
   PRINCIPAL AXES:  (T) VAL=  1.93;  PLG=76;  AZM=355;  (N) VAL= -0.24;  PLG=14;  AZM=181;  (P) VAL= -1.69;  PLG= 1;  AZM= 91
   BEST DOUBLE COUPLE:       Mo= 1.8*10**25;    NP1:  STRIKE=167;  DIP=45;  SLIP=  70;   NP2:  STRIKE= 14;  DIP=48;  SLIP= 109
   CMTS:  (BRV) B082682A   DATA:  GDSN                ;  L.P. BODY WAVES:  14S, 34C, T= 45;
   CENTROID LOCATION   OT  5:23: 4.5 0.4;  LAT  2.54S 0.05;  LON  80.04W 0.04;  DEP  92.1 2.8;          HALF-DURATION  3.2
   MT: Scale 10**25 d-cm; MRR= 0.41 0.04; MTT= 0.73 0.05; MFF=-1.14 0.07; MRT= 0.52 0.03; MRF= 0.50 0.03; MTF= 0.43 0.05
   PRINCIPAL AXES:  (T) VAL=  1.28;  PLG=37;  AZM=341;  (N) VAL=  0.04;  PLG=50;  AZM=188;  (P) VAL= -1.33;  PLG=14;  AZM= 82
   BEST DOUBLE COUPLE:       Mo= 1.3*10**25;    NP1:  STRIKE=128;  DIP=56;  SLIP=  19;   NP2:  STRIKE= 27;  DIP=75;  SLIP= 142
26   07 47 32.7* 6.758 N   72.992 W  172     4.5          0.6    9  NORTHERN COLOMBIA
26   08 15 16.2* 53.965 N  164.048 W   33 N  4.7          1.0   36  UNIMAK ISLAND REGION
26   08 42 26.9* 63.625 N  19.540 W   10 G  4.1          1.1   14  ICELAND
26   11 35 22.2* 11.715 N  92.986 E   33 N  4.8          1.3   10  ANDAMAN ISLANDS REGION
26   14 31 43.0* 47.293 N  15.282 E   10 G               1.3    6  AUSTRIA
26   14 51 37.2* 13.769 S  166.393 E   82     4.4          1.2   23  VANUATU ISLANDS
26   15 14 02.9* 26.335 S  27.363 E    5 G               1.3   10  REPUBLIC OF SOUTH AFRICA
26   15 19 28.9* 30.382 S  178.406 W  196     4.6          1.2   10  KERMADEC ISLANDS
26   18 18 35.4* 39.093 N  21.644 E   10 G  4.3          0.7   25  GREECE. ML 3.4 (ATH).
26   19 02 23.4* 58.993 N  136.949 W   15 G  4.1          1.2   16  SOUTHEASTERN ALASKA. Felt at Haines.
26   19 13 43.4S 16.402 N  62.068 W  195                  0.3    8  LEEWARD ISLANDS
26   19 39 08.4S 37.597 N  118.855 W   10 G                        17  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 4.0 (BRK),
                                                                       3.6 (PAS). Felt in the Mammoth Lakes, California area.
26   20 11 13.4S 16.551 N  60.806 W   33 N               0.4    8  LEEWARD ISLANDS
26   20 36 53.2S 37.617 N  118.817 W    4 G                         3  CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. ML 3.0 (PAS).
26   21 11 26.4S 45.574 N  26.529 E  153                  0.1    5  ROMANIA
26   21 57 27.1* 47.997 N  127.987 W   10 G  4.3          0.9    9  OFF COAST OF WASHINGTON
26   22 28 03.1S 33.267 N  116.000 W    4 G                        11  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.5 (PAS). Felt at
                                                                       Borrego Springs and Salton City.
26   23 55 55.3  28.161 S  69.534 W  102     4.4          1.1   24  CHILE-ARGENTINA BORDER REGION
27   01 41 26.6* 38.257 N  23.445 E   10 G               0.8    6  GREECE. ML 3.7 (ATH).
27   03 56 49.5* 35.462 S  104.246 W   10 G  5.2 4.8      1.4   28  SOUTHERN PACIFIC OCEAN
   CMTS:  (BRV) B082782A   DATA:  GDSN                ;  L.P. BODY WAVES:  11S, 30C, T= 45;
   CENTROID LOCATION   OT  3:57: 0.1 0.3;  LAT 35.62S 0.07;  LON 105.01W 0.07;  DEP  10.1 FIX;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 0.12 0.23; MTT=-1.45 0.27; MFF= 1.34 0.14; MRT= 0.86 0.56; MRF=-0.68 0.55; MTF=-3.67 0.22
   PRINCIPAL AXES:  (T) VAL=  4.14;  PLG=15;  AZM= 55;  (N) VAL= -0.13;  PLG=75;  AZM=253;  (P) VAL= -4.01;  PLG= 5;  AZM=146
   BEST DOUBLE COUPLE:       Mo= 4.1*10**24;    NP1:  STRIKE=191;  DIP=76;  SLIP=   7;   NP2:  STRIKE=100;  DIP=83;  SLIP= 166
27   04 13 49.4* 33.270 S  71.590 W   33 N               0.8    9  NEAR COAST OF CENTRAL CHILE
27   04 25 37.8S 33.933 N  117.817 W   17 G                        14  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.1 (PAS). Felt (V) at
                                                                       Anaheim and (IV) at Huntington Beach. Also felt at
                                                                       Glendora, Santa Ana and Whittier.
27   04 33 39.7* 51.546 N  16.060 E   10 G               0.5   13  POLAND. ML 3.7 (KBA).
27   09 58 55.9  43.718 N  26.068 E   33 N  4.7          1.1   38  BULGARIA. Felt (IV) in northeastern Bulgaria.
27   10 46 57.5S 15.170 N  60.443 W   33 N               0.1    5  LEEWARD ISLANDS
27   11 48 32.0S 20.099 N  155.624 W   10 G                       10  HAWAII. <HVO-P>. ML 4.1 (HVO). Felt at Honokaa and
                                                                       Waimea.
27   11 59 00.6  51.387 N  178.281 W   49     5.1 4.4      0.8  128  ANDREANOF ISLANDS, ALEUTIAN IS. Felt on Adak.
27   12 20 39.7* 42.519 N  24.043 E   10 G               1.4    5  BULGARIA
27   12 52 49.6   4.313 S  143.594 E  150     4.4          1.3    7  PAPUA NEW GUINEA
27   12 56 09.0? 18.63  N  146.02  E   94     4.6          1.0   19  MARIANA ISLANDS
27   15 14 53.2* 14.899 S  74.661 W   33 N               0.3    7  PERU
27   15 26 48.6? 16.19  N  98.34  W   33 N  4.8          1.1   24  NEAR COAST OF GUERRERO, MEXICO
27   22 46 20.6* 31.800 S  179.317 W  277     4.6          1.5   16  KERMADEC ISLANDS REGION
27   22 50 31.7  40.656 N  21.272 E   20     4.2          1.1   30  GREECE. ML 4.0 (ATH). Felt (IV) in the Bitola,
                                                                       Yugoslavia area.
27   23 30 09.0   2.308 S  120.973 E   55     5.4          1.1   91  SULAWESI
28   00 45 29.1   6.751 N  72.978 W  167     4.3          0.9   17  NORTHERN COLOMBIA
28   01 03 11.3S 37.845 N  121.782 W   15 G                        16  CENTRAL CALIFORNIA. <BRK>. ML 3.8 (BRK). Felt (IV) at
                                                                       Alamo, Lafayette and Stockton. Also felt at Antioch,
                                                                       Livermore, Fremont, Hayward, Alameda and Holt.
28   03 18 23.5* 43.730 N  26.373 E   10                  1.1    7  BULGARIA
28   04 24 58.4* 57.999 S  24.169 W   33 N  4.7          0.5    7  SOUTH SANDWICH ISLANDS REGION
28   04 29 10.2  30.216 S  177.567 W  140     5.1          1.1   66  KERMADEC ISLANDS
28   04 41 34.4  30.687 S  177.155 W   33 N  5.2 5.2      1.3   35  KERMADEC ISLANDS
28   05 24 01.9* 40.739 N  15.171 E   33 N  3.5          1.3    8  SOUTHERN ITALY. ML 3.2 (TRI). Felt (V) in the Salerno
                                                                       area.
28   05 52 33.3? 33.87  S  70.03  W  135                  0.1    6  CHILE-ARGENTINA BORDER REGION
28   05 58 55.7* 7.419 N   71.919 W   60     4.6          1.4   10  VENEZUELA
28   07 24 29.6* 49.611 N  0.164 E   10 G               0.7   14  FRANCE. ML 3.4 (LDG).
28   08 26 55.3* 38.726 N  118.717 W    5 G               0.8   13  CALIFORNIA-NEVADA BORDER REGION. ML 3.6 (BRK).
28   10 50 57.0* 33.575 S  70.103 W   33 N               1.1    9  CHILE-ARGENTINA BORDER REGION
28   11 58 51.2* 15.903 S  71.522 W  151     4.8          1.2   15  SOUTHERN PERU
28   12 12 29.7  37.076 N  141.062 E   63     4.8          0.9   57  NEAR EAST COAST OF HONSHU, JAPAN. Felt (II JMA) at
                                                                       Onahama, Utsunomiya and Sendai. Also felt (I JMA) at
                                                                       Mito and Tokyo.
28   13 17 49.9? 36.48  N  21.42  E   33 N  4.1          1.5    5  SOUTHERN GREECE
28   15 47 27.7   3.146 S  130.434 E   23 N  4.9          1.2   41  CERAM
28   18 02 45.7* 63.464 N  151.375 W   33 N               1.1    8  CENTRAL ALASKA. ML 3.1 (PMR).
28   18 18 41.3* 37.265 N  125.772 E   33 N  3.8          0.9    6  SOUTH KOREA. Felt in central South Korea.
28   18 52 55.7  36.438 N  70.760 E  206     4.7          0.8   64  HINDU KUSH REGION. Felt (III) at Khorog, USSR.
28   21 19 04.2S 31.700 N  115.500 W    4 G                        4  BAJA CALIFORNIA. <PAS-P>. ML 3.5 (PAS).
28   21 52 12.5* 24.266 S  175.422 W   33 N  4.7          0.7   15  SOUTH OF TONGA ISLANDS
28   23 04 41.1? 50.12  N  19.13  E   10 G               1.6    5  POLAND
29   00 59 20.7  19.363 S  70.322 W   33 N  5.1 4.5      1.1   60  NEAR COAST OF NORTHERN CHILE
29   02 48 03.9* 1.189 S   13.866 W   10 C  4.6          0.8   24  NORTH OF ASCENSION ISLAND
29   03 17 15.6   5.671 S  129.649 E  361     4.4          0.1    5  BANDA SEA
29   03 52 12.6? 39.70  N  20.36  E   10 G  3.3          1.5    5  GREECE-ALBANIA BORDER REGION. ML 3.9 (ATH).
29   05 02 35.0S 37.390 N  118.502 W    5 G                        19  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.7 (BRK),
                                                                       3.1 (PAS). Felt at Bishop, California.
29   09 53 31.9* 15.696 N  60.601 W   33 N               0.3   10  LEEWARD ISLANDS
29   12 45 12.9* 37.323 N  72.102 E  152     4.3          0.5    6  TAJIK SSR
```

29 13 18 14.4 6.018 S 112.769 E 597 D 5.8 1.0 217 JAVA
CMTS: (HRV) B082982A DATA: GDSN : L.P. BODY WAVES: 115, 31C, I= 45;
CENTROID LOCATION OT 13:18:20.1 0.3; LAT 6.02S 0.03; LON 112.99E 0.04; DEP 597.5 2.4; HALF-DURATION 6.3
MT: Scale 10**24 d-cm; MRR=-7.60 0.24; MTT= 6.57 0.34; MFF= 1.03 0.33; MRT=-2.46 0.36; MRF= 2.28 0.34; MTF=-1.86 0.36
PRINCIPAL AXES: (T) VAL= 7.75; PLG=11; AZM=199; (N) VAL= 0.69; PLG= 9; AZM=291; (P) VAL= -8.43; PLG=76; AZM= 57
BEST DOUBLE COUPLE: Mo= 8.1*10**24; NP1: STRIKE=278; DIP=34; SLIP=-105; NP2: STRIKE=117; DIP=57; SLIP= -75

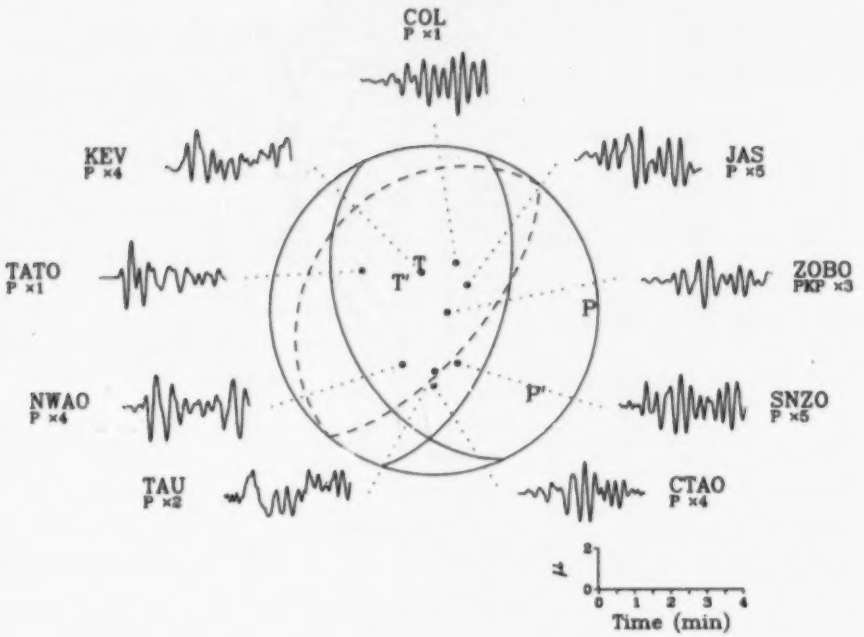
29	13 26 47.7*	33.385 S	71.499 W	33 N					0.7	8	NEAR COAST OF CENTRAL CHILE
29	13 59 29.6	6.125 S	113.257 E	590		5.2			1.1	71	JAVA
29	14 28 06.0*	6.400 N	123.644 E	58		4.0			1.1	6	MINDANAO, PHILIPPINE ISLANDS
29	16 22 19.5*	34.438 S	70.485 W	71					0.6	9	CHILE-ARGENTINA BORDER REGION
29	16 44 18.2	64.033 N	147.347 W	69					0.6	15	CENTRAL ALASKA
29	16 49 03.9	62.904 N	148.648 W	101		3.8			0.5	17	CENTRAL ALASKA
29	21 08 04.06	38.165 N	118.432 W	5	G					16	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 4.0 (BRK). 3.9 (PAS). Felt.
29	21 31 19.8*	23.523 S	175.253 W	33	N	5.4	5.2		1.3	34	TONGA ISLANDS REGION
30	00 27 04.4	3.531 S	177.719 E	26	D	4.7			1.0	22	GILBERT ISLANDS REGION
30	01 06 00.9*	31.548 S	69.172 W	186					0.4	9	SAN JUAN PROVINCE, ARGENTINA
30	02 10 58.2*	32.917 S	71.978 W	33	N				1.2	17	NEAR COAST OF CENTRAL CHILE
30	02 19 47.4	24.224 N	122.952 E	38		4.3			1.0	23	TAIWAN REGION
30	02 33 03.8*	17.484 N	101.914 W	53		4.9			0.9	63	NEAR COAST OF GUERRERO, MEXICO
30	02 37 29.6*	13.988 S	76.513 W	33	N				0.6	5	NEAR COAST OF PERU
30	06 27 14.5*	44.645 N	147.434 E	103		4.4			0.9	23	KURIL ISLANDS
30	06 47 14.3?	33.?4 S	71.67 W	33	N				0.6	8	NEAR COAST OF CENTRAL CHILE
30	08 23 11.2*	63.177 N	150.491 W	117					0.2	8	CENTRAL ALASKA
30	08 39 25.2*	0.002 N	17.599 W	10	G	5.0	4.8		0.8	72	NORTH OF ASCENSION ISLAND
30	09 15 59.6	63.177 N	149.804 W	122					0.5	13	CENTRAL ALASKA
30	09 33 04.7*	31.883 S	72.161 W	33	N				0.7	7	OFF COAST OF CENTRAL CHILE
30	09 52 23.26	38.173 N	118.438 W	5	G					11	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.5 (BRK). 3.6 (PAS).
30	11 20 22.4*	0.033 S	17.697 W	10	G	5.0	5.1		1.1	87	NORTH OF ASCENSION ISLAND
30	11 39 04.7*	2.121 S	100.743 E	69		4.2			1.3	13	SOUTHERN SUMATERA
30	11 44 42.2*	31.319 S	68.756 W	114					1.0	8	SAN JUAN PROVINCE, ARGENTINA
30	11 50 22.77	37.12 N	142.32 E	33	N	4.2			1.1	7	OFF EAST COAST OF HONSHU, JAPAN
30	13 30 06.1	54.525 N	161.622 W	35		5.2	4.3		0.9	136	ALASKA PENINSULA. Felt at Sand Point.
30	14 58 29.9	2.268 S	121.158 E	84		4.9			1.1	33	SULAWESI
30	19 05 02.2*	36.008 N	27.303 E	10	G	4.2			0.8	12	DODECANESE ISLANDS
30	20 42 52.9*	32.570 S	70.702 W	33	N				1.4	5	CHILE-ARGENTINA BORDER REGION
30	21 57 47.5*	2.138 S	147.262 E	33	N	4.3			1.5	8	ADMIRALTY ISLANDS REGION
30	23 13 35.6	25.422 N	96.644 E	33		4.7	4.4		1.3	46	BURMA
31	00 17 06.9	6.094 S	154.924 E	114		5.2			1.1	44	SOLOMON ISLANDS
31	01 31 00.5	49.920 N	78.812 E	0	G	5.4	3.5		0.8	150	EASTERN KAZAKH SSR. Underground nuclear Explosion. (Dept. of Energy Press Release N82-02E).
31	03 08 16.4*	32.581 S	71.124 W	33	N				1.1	5	NEAR COAST OF CENTRAL CHILE
31	03 11 07.8&	36.648 N	121.325 W	7	G					18	CENTRAL CALIFORNIA. <BRK>. ML 4.0 (BRK). Felt at Hollister.
31	03 45 09.8	43.251 N	27.259 E	10	G				1.2	5	BULGARIA
31	07 16 14.7	63.056 N	150.994 W	137					0.2	12	CENTRAL ALASKA
31	08 07 51.7	2.574 N	126.591 E	87		5.1			1.1	39	MOLUCCA PASSAGE
31	10 16 58.16	43.209 N	74.200 W	4	G					3	NEW YORK. <PAL>. CL 2.7 (PAL). Felt at Northville.
31	10 42 45.3	25.381 N	91.472 E	33	N	5.0			1.1	58	INDIA-BANGLADESH BORDER REGION
31	12 41 35.9	31.030 N	140.552 E	109		4.8			0.9	26	SOUTH OF HONSHU, JAPAN
31	13 02 59.5*	3.242 S	130.338 E	60		4.0			1.2	9	CERAM
31	15 34 50.4&	33.267 N	116.683 W	4	G					5	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
31	15 58 52.7*	39.391 N	25.310 E	10	G				1.0	11	AEGEAN SEA. ML 3.3 (ATH).
31	17 19 33.9*	36.388 N	141.143 E	50		4.2			0.7	12	NEAR EAST COAST OF HONSHU, JAPAN
31	18 33 50.9*	47.217 N	151.135 E	159	D	4.5			1.0	27	KURIL ISLANDS
31	22 02 18.5*	42.721 N	108.851 W	5	G				1.0	14	WYOMING. ML 3.2 (NEIS). Felt (IV) in the Lander area.

Compiled by W. Leroy Irby, Willis L. Jacobs, John H. Minsch, Russell E. Needham, Waverly J. Person, Bruce W. Presgrave and William H. Schmieder.

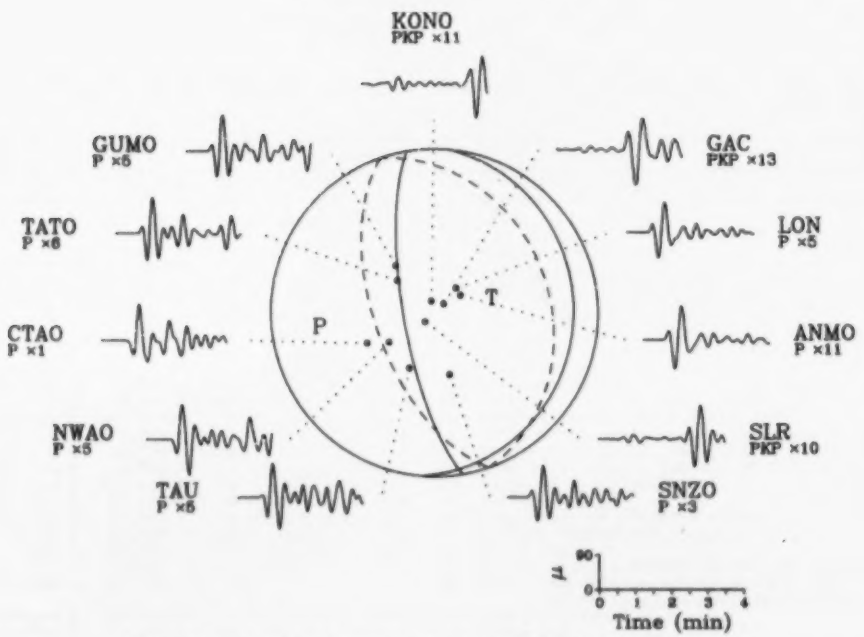
Fault Plane Solutions: A fault plane solution is determined when possible from P-wave first motions for any earthquake having a magnitude of 6.5 or greater. A description of this solution is reported in the comments on the Preliminary Determination of Epicenters Monthly Listing. Focal sphere solutions and first motion parameters are available upon request from:

National Earthquake Information Service
U.S. Geological Survey
Stop 967, Box 25046
Denver Federal Center
Denver, CO 80225 USA

3 August 1982 06:04:39.6
South of Mariana Islands

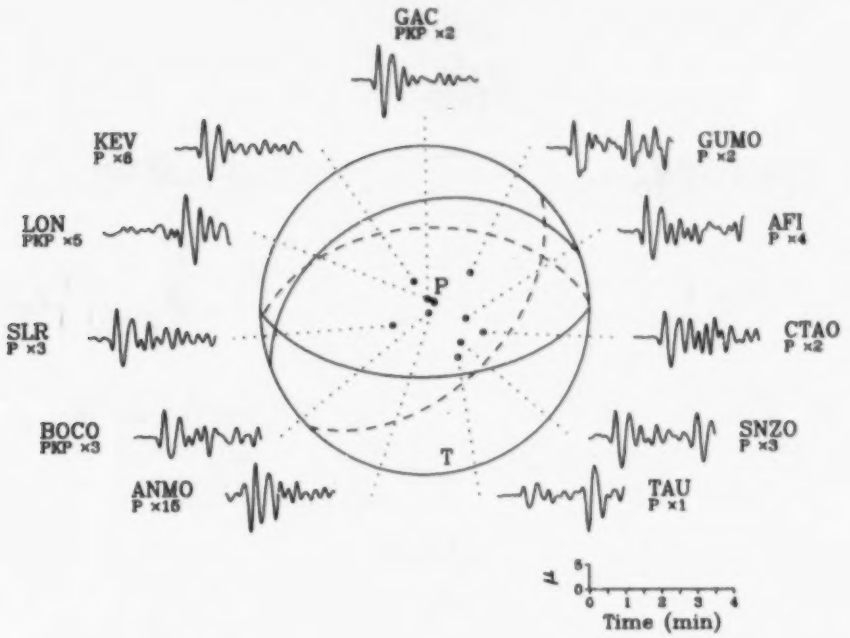


5 August 1982 20:32:53.0
Santa Cruz Islands



Prominant secondary arrival at PKP distances is PP

7 August 1982 20:56:22.7
South of Bali Island



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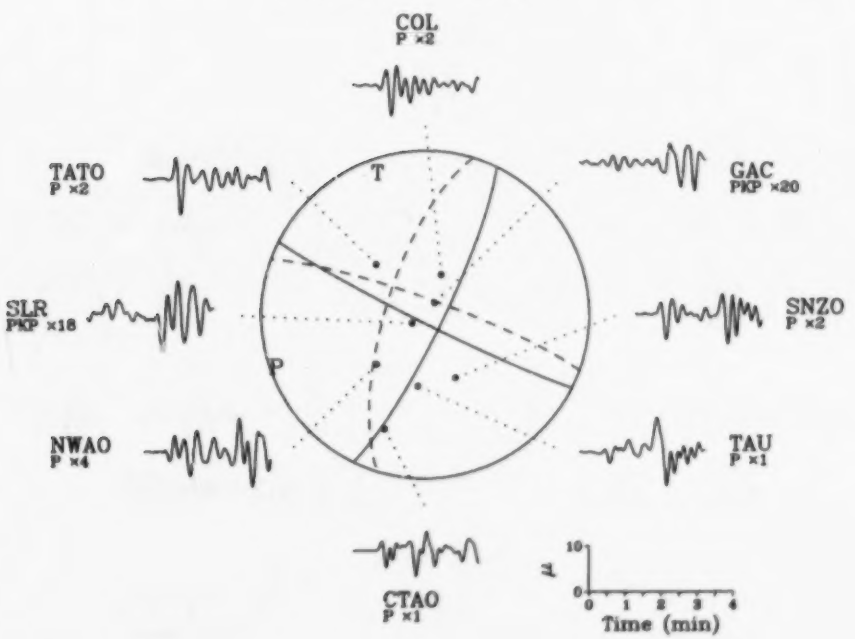
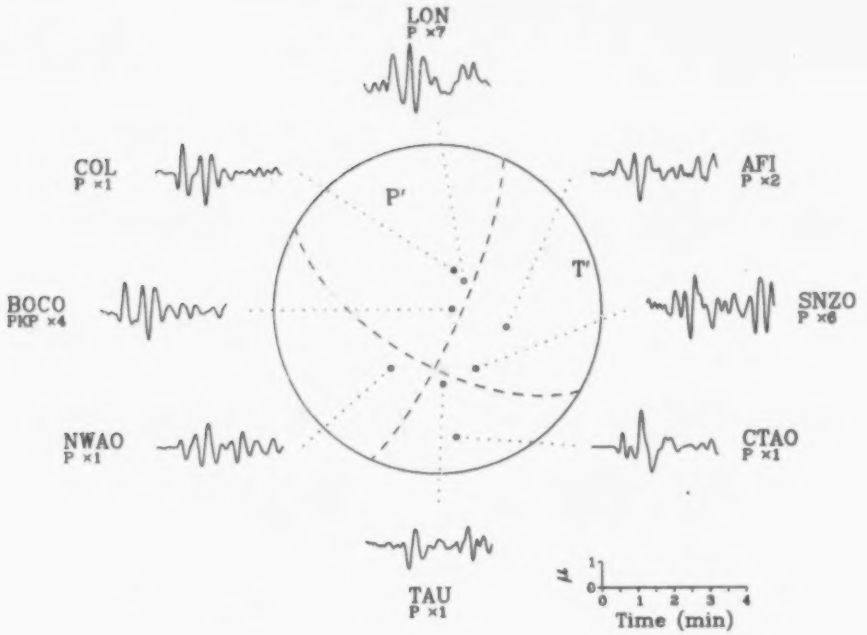
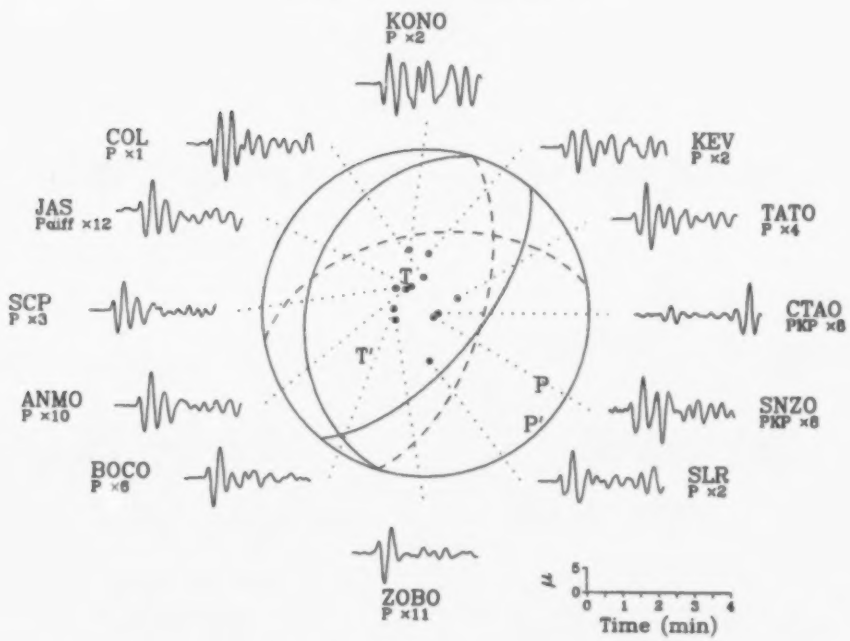
New Ireland Region



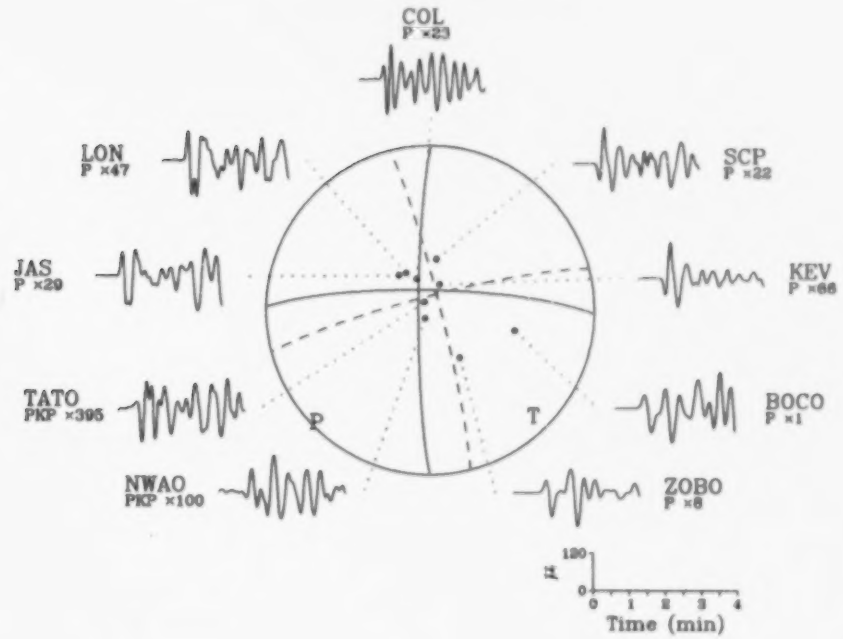
14 August 1982 14:27:40.2
Papua New Guinea



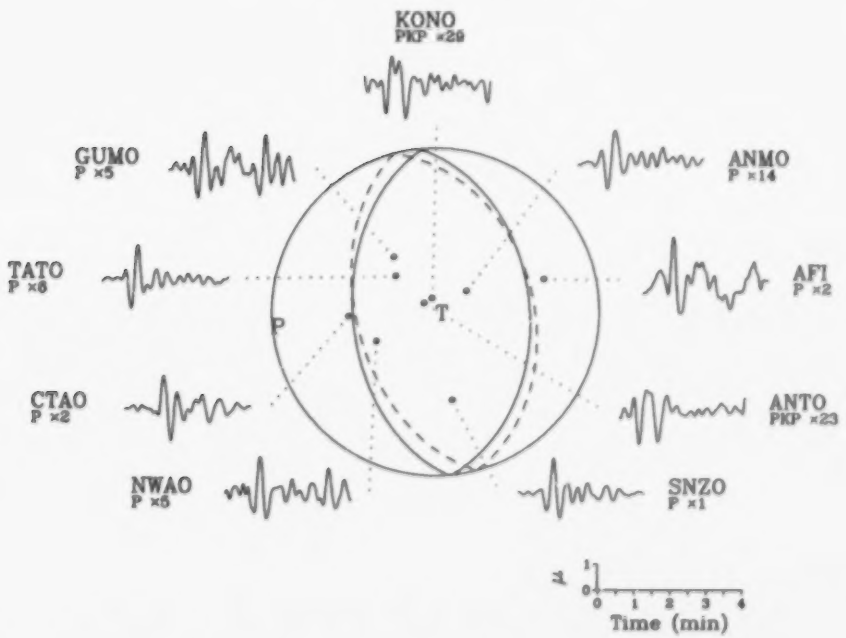
17 August 1982 22:22:24.4
Mediterranean Sea



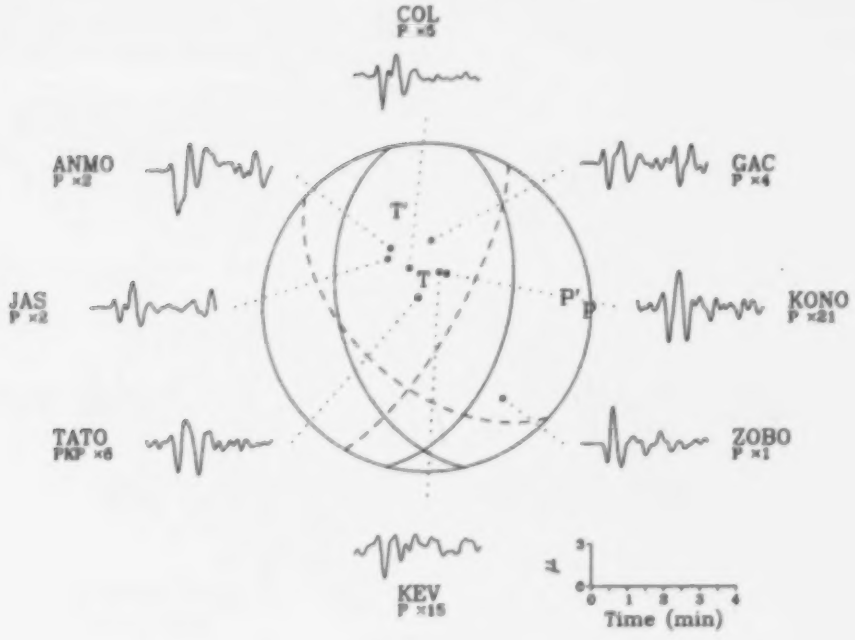
19 August 1982 15:59:01.5
South of Panama



22 August 1982 03:42:36.1
Vanuatu Islands



26 August 1982 05:22:59.6
Near Coast of Ecuador



PRELIMINARY DETERMINATION OF EPICENTERS

Monthly Listing

National Earthquake Information Service

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SEP 1982

DAY	ORIGIN TIME UTC HR	MN	SEC	GEOGRAPHIC COORDINATES LAT		LONG		DEPTH	MAGNITUDES GS	MB	Msz	SD	NO. STA USED	REGION, CONTRIBUTED MAGNITUDE
01	01	05	00.3*	31.322	S	178.224	W	236		4.6		1.1	10	KERMADEC ISLANDS REGION
01	05	18	58.8	36.373	N	34.042	W	10	G	4.7	4.8	0.5	21	AZORES ISLANDS REGION
01	05	42	22.8	21.588	S	179.273	W	616		4.7		1.1	22	FIJI ISLANDS REGION
01	06	19	24.8	61.221	N	150.817	W	93		3.8		0.9	21	SOUTHERN ALASKA. Felt (III) at Anchorage.
01	07	19	07.4	33.668	N	48.900	E	33	N	4.9	3.5	0.9	45	WESTERN IRAN
01	10	47	43.06	32.800	N	117.450	W	6	G				5	CALIFORNIA-MEXICO BORDER REGION. <PAS-P>. ML 3.0 (PAS).
01	11	38	18.4*	27.912	S	26.890	E	5	G			1.0	8	REPUBLIC OF SOUTH AFRICA
01	11	46	43.5*	58.806	N	152.698	W	33	N			0.8	10	KODIAK ISLAND REGION. ML 4.1 (PMR).
01	13	44	02.9	31.949	N	131.876	E	50		4.5		1.1	12	KYUSHU, JAPAN. Felt (II JMA) at Miyazaki.
01	14	13	44.7*	20.819	S	166.893	E	35		4.7	4.5	1.2	33	LOYALTY ISLANDS
01	15	19	02.8	55.598	S	27.420	W	33	N	5.3		1.1	25	SOUTH SANDWICH ISLANDS REGION
01	15	33	17.1	43.894	N	10.322	E	10	G			1.0	38	CENTRAL ITALY. ML 3.9 (FIR), 3.8 (TRI). Felt in the Lucca-Pisa area.
01	16	18	35.1	41.783	N	21.818	E	10	G	3.2		0.8	19	YUGOSLAVIA. ML 3.5 (TIR). Felt in the Titov Veles area.
01	18	34	06.2	8.734	S	153.829	E	33	N	4.1		1.1	19	DENTRECASTEAUX ISLANDS REGION
01	21	11	48.6*	36.190	N	140.919	E	42		4.2		1.2	13	NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at Mito.
02	00	56	56.9	63.157	N	149.662	W	116				0.3	9	CENTRAL ALASKA
02	07	33	02.9	4.344	S	135.103	E	33	N	4.2		1.3	15	WEST IRIAN REGION
02	10	03	48.4	36.498	N	70.622	E	210		4.9		0.9	76	HINDU KUSH REGION
02	14	00	00.04	37.020	N	116.016	W	0	G				11	SOUTHERN NEVADA. <DOE>. ML 3.3 (NEIS). 37° 01' 11.04" N., 116° 00' 56.41" W., Surface Elev. 1212 m., Depth of Burial 229 m., Shot Time 140000.090, "CERRO", Nevada Test Site (Dept. of Energy).
02	15	58	53.6	39.753	S	176.886	E	33	N	5.6		1.1	49	NORTH ISLAND, NEW ZEALAND. Minor damage in the Hastings-Napier area.
	CMTS: (HRV) B090282A DATA: GDSN ; L.P. BODY WAVES: 9S, 24C, T= 45;													
	CENTROID LOCATION 0T 15:58:56.5 0.5; LAT 39.55S 0.07; LON 177.68E 0.08; DEP 26.5 3.7; HALF-DURATION 1.6													
	MT: Scale 10**24 d-cm; MRR=-0.86 0.08; MTT= 0.40 0.10; MFF= 0.46 0.07; MRT= 0.38 0.21; MRF= 1.13 0.24; MTF= 1.05 0.10													
	PRINCIPAL AXES: (T) VAL= 1.91; PLG=22; AZM=309; (N) VAL= -0.38; PLG=24; AZM=209; (P) VAL= -1.53; PLG=56; AZM= 77													
	BEST DOUBLE COUPLE: Mo= 1.7*10**24; NP1: STRIKE= 76; DIP=32; SLIP= -38; NP2: STRIKE=200; DIP=71; SLIP=-116													
02	19	13	10.1*	60.148	N	153.190	W	125		4.0		0.8	10	SOUTHERN ALASKA
02	19	35	29.5	3.601	S	145.189	E	33	N	4.4		1.4	18	NEAR N COAST OF PAPUA NEW GUINEA
02	20	20	14.4	48.210	S	9.849	W	10	G	5.2	5.2	0.8	40	SOUTH ATLANTIC RIDGE
02	21	45	23.4	44.035	N	7.212	E	10	G			0.6	28	NORTHERN ITALY
02	22	51	06.2†	38.08	N	117.92	W	5	G			0.8	5	NEVADA. ML 3.2 (PAS).
03	01	32	00.2	43.913	N	148.478	E	33	N	6.0	5.9	1.1	300	KURIL ISLANDS REGION. Ms 5.5 (PAS). Felt (III) on Shikotan and (II JMA) in eastern Hokkaido. [FS].
	FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE= 45; DIP=72; SLIP= 90. NP2: STRIKE=225; DIP=18; SLIP= 90													
	PRINCIPAL AXES: (T) PLG=63; AZM=315. (P) PLG=27; AZM=135													
	Moderately well controlled reverse fault type mechanism. NP2 designated as the fault plane.													
	MOMENT TENSOR SOLUTION. NO OF STA 11. SCALE 10**25 D-CM													
	PRINCIPAL AXES: (T) VAL= 1.42; PLG=72; AZM=352; (N) VAL= -0.10; PLG=18; AZM=181; (P) VAL= -1.32; PLG= 3; AZM= 91													
	BEST DOUBLE COUPLE: Mo= 1.4*10**25; NP1: STRIKE=162; DIP=65; SLIP= 64; NP2: STRIKE= 17; DIP=51; SLIP= 114													
	CMTS: (HRV) B090382A DATA: GDSN ; L.P. BODY WAVES: 12S, 33C, T= 45;													
	CENTROID LOCATION 0T 1:32: 4.8 0.3; LAT 43.71N 0.03; LON 148.92E 0.07; DEP 10.1 FIX; HALF-DURATION 4.0													
	MT: Scale 10**24 d-cm; MRR= 9.67 0.31; MTT=-3.72 0.33; MFF=-5.95 0.44; MRT= 9.16 1.13; MRF= 9.20 1.09; MTF=-5.58 0.37													
	PRINCIPAL AXES: (T) VAL= 16.05; PLG=64; AZM=319; (N) VAL= 0.79; PLG= 3; AZM=223; (P) VAL=-16.84; PLG=26; AZM=131													
	BEST DOUBLE COUPLE: Mo= 1.6*10**25; NP1: STRIKE=214; DIP=19; SLIP= 81; NP2: STRIKE= 44; DIP=71; SLIP= 93													
03	01	39	23.8†	27.97	S	26.72	E	5	G			1.7	7	REPUBLIC OF SOUTH AFRICA
*03	02	39	47.9*	52.569	N	166.928	W	33	N	4.8		1.0	59	FOX ISLANDS, ALEUTIAN ISLANDS
03	03	11	49.2	43.725	N	148.596	E	33	N	4.7		1.0	39	KURIL ISLANDS REGION
03	03	40	11.8	43.815	N	148.420	E	33	N	5.8	5.8	1.1	260	KURIL ISLANDS REGION. Felt (III) on Kunashir and (I JMA) in eastern Hokkaido.
	CMTS: (HRV) B090382B DATA: GDSN ; L.P. BODY WAVES: 12S, 31C, T= 45;													
	CENTROID LOCATION 0T 3:40:15.1 0.3; LAT 43.70N 0.04; LON 148.75E 0.09; DEP 10.1 FIX; HALF-DURATION 3.1													
	MT: Scale 10**24 d-cm; MRR= 4.51 0.20; MTT=-1.58 0.19; MFF=-2.92 0.30; MRT= 5.76 0.59; MRF= 4.04 0.55; MTF=-2.87 0.23													
	PRINCIPAL AXES: (T) VAL= 8.38; PLG=61; AZM=336; (N) VAL= 0.37; PLG= 9; AZM=230; (P) VAL= -8.75; PLG=28; AZM=135													
	BEST DOUBLE COUPLE: Mo= 8.6*10**24; NP1: STRIKE=202; DIP=19; SLIP= 61; NP2: STRIKE= 52; DIP=73; SLIP= 99													

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I 19.66:

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03   04 11 57.6  43.774 N  148.471 E   33 N  5.4          0.9  153  KURIL ISLANDS REGION
03   05 55 24.8* 8.729 S   80.198 W   33 N  4.7          0.9   17  OFF COAST OF NORTHERN PERU
03   07 29 26.1? 66.73  N  133.20  E   33 N  4.5          1.5   10  EASTERN SIBERIA
03   07 53 27.9* 44.829 N  148.193 E   33 N  4.6          0.4   17  KURIL ISLANDS
03   08 06 41.2  43.724 N  148.479 E   33 N  5.1 4.7      0.9   95  KURIL ISLANDS REGION
03   08 28 35.8  43.766 N  148.427 E   33 N  5.7 5.3      0.9  212  KURIL ISLANDS REGION
     CMTS: (HRV) B090382C   DATA: GDSN            ; L.P. BODY WAVES:  10S, 30C, T= 45;
     CENTROID LOCATION   OT 8:28:39.4 0.5;  LAT 43.48N 0.07;  LON 148.56E 0.14;  DEP  16.3 4.1;        HALF-DURATION  1.7
     MT: Scale 10**24 d-cm; MRR= 1.08 0.08; MTT=-0.35 0.07; MFF=-0.73 0.11; MRT= 1.08 0.34; MRF= 0.70 0.30; MTF=-0.58 0.08
     PRINCIPAL AXES:  (T) VAL=  1.72; PLG=63; AZM=340;  (N) VAL= -0.02; PLG=11; AZM=228;  (P) VAL= -1.69;  PLG=24; AZM=133
     BEST DOUBLE COUPLE:      Mo= 1.7*10**24;    NP1:  STRIKE=201; DIP=23; SLIP=  61;   NP2:  STRIKE= 52; DIP=70; SLIP= 101
03   10 04 43.7  43.743 N  148.558 E   33 N  5.0          0.8   80  KURIL ISLANDS REGION
03   11 11 06.1& 33.267 N  116.417 W    4 G                 5  SOUTHERN CALIFORNIA. <PAS-P>. ML 2.6 (PAS). Felt at
                                                               Borrego.
03   18 13 40.7  52.857 N    1.804 E   10 G                0.8   16  UNITED KINGDOM
03   18 58 23.8& 39.555 N  122.558 W    5 G  4.3            22  NORTHERN CALIFORNIA. <BRK>. ML 4.0 (BRK). Felt (III) at
                                                               Hamilton City, Princeton, Paskenta and Tehama.
03   20 05 45.3  50.709 N  129.659 W   10 G  4.2          1.1   16  VANCOUVER ISLAND REGION
03   20 14 30.3  23.859 S   66.605 W  183    5.5          0.9  201  JUJUY PROVINCE, ARGENTINA. Felt (II) in the
                                                               Antofagasta, Chile area.
     CMTS: (HRV) B090382D   DATA: GDSN            ; L.P. BODY WAVES:   9S, 19C, T= 45;
     CENTROID LOCATION   OT 20:14:41.2 0.6;  LAT 23.84S 0.11;  LON  66.52W 0.07;  DEP 204.3 3.6;        HALF-DURATION  1.7
     MT: Scale 10**24 d-cm; MRR=-1.01 0.10; MTT=-0.59 0.17; MFF= 1.60 0.14; MRT= 0.72 0.14; MRF=-0.63 0.11; MTF= 0.26 0.22
     PRINCIPAL AXES:  (T) VAL=  1.75; PLG=12; AZM= 93;  (N) VAL= -0.07; PLG=34; AZM=354;  (P) VAL= -1.68;  PLG=53; AZM=199
     BEST DOUBLE COUPLE:      Mo= 1.7*10**24;    NP1:  STRIKE=218; DIP=44; SLIP= -36;   NP2:  STRIKE=336; DIP=66; SLIP=-128
03   20 14 33.5* 39.786 N   24.148 E   10 G                1.6   12  AEGEAN SEA. ML 3.5 (ATH).
03   21 16 10.6  62.036 N  151.710 W  113                  0.4   17  CENTRAL ALASKA
03   21 26 06.4* 38.970 N   21.117 E   10 G                0.7    6  GREECE. ML 3.5 (ATH).
03   23 16 48.2* 22.434 N  120.018 E   33 N                0.3    8  TAIWAN
03   23 39 39.0  15.296 S  173.089 W   33 N  5.9 6.3      1.1  207  TONGA ISLANDS. Ms 6.3 (BRK). Felt (II) at Apia, Samoa
                                                               Islands. [FS].
          FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=355;  DIP=68;  SLIP=  90.   NP2:  STRIKE=175;  DIP=22;  SLIP=  90
          PRINCIPAL AXES:   (T)  PLG=67;  AZM=265.   (P)  PLG=23;  AZM= 85
                                                               Poorly controlled reverse fault type mechanism. NP2
                                                               designated as the fault plane.
     MOMENT TENSOR SOLUTION.   NO OF STA  11.   SCALE 10**25 D-CM
     PRINCIPAL AXES:  (T) VAL=  3.36; PLG=72; AZM=177;  (N) VAL= -0.65; PLG=18; AZM=356;  (P) VAL= -2.72;  PLG= 1; AZM= 86
     BEST DOUBLE COUPLE:      Mo= 3.0*10**25;    NP1:  STRIKE=193; DIP=47; SLIP= 115;   NP2:  STRIKE=339; DIP=48; SLIP=  66
     CMTS: (HRV) C090382E   DATA: GDSN            ; L.P. BODY WAVES:  14S, 39C, T= 45;   MANTLE WAVES:   9S, 22C, T=135
     CENTROID LOCATION   OT 23:39:46.4 0.1;  LAT 15.25S 0.02;  LON 173.29W 0.02;  DEP  10.1 FIX;        HALF-DURATION  4.7
     MT: Scale 10**25 d-cm; MRR= 1.89 0.04; MTT= 0.35 0.05; MFF=-2.23 0.04; MRT=-0.93 0.14; MRF= 4.98 0.17; MTF= 0.71 0.04
     PRINCIPAL AXES:  (T) VAL=  5.24; PLG=56; AZM=262;  (N) VAL=  0.52; PLG= 2; AZM=169;  (P) VAL= -5.76;  PLG=33; AZM= 78
     BEST DOUBLE COUPLE:      Mo= 5.5*10**25;    NP1:  STRIKE=160; DIP=12; SLIP=  81;   NP2:  STRIKE=349; DIP=79; SLIP=  92
04   02 08 09.0  15.433 S  173.062 W   33 N  5.7 6.3      1.3  191  TONGA ISLANDS. Ms 6.1 (PAS). Felt (II) at Apia, Samoa
                                                               Islands.
     MOMENT TENSOR SOLUTION.   NO OF STA   5.   SCALE 10**25 D-CM
     PRINCIPAL AXES:  (T) VAL=  2.96; PLG=68; AZM=178;  (N) VAL= -0.51; PLG=21; AZM=354;  (P) VAL= -2.45;  PLG= 1; AZM= 84
     BEST DOUBLE COUPLE:      Mo= 2.7*10**25;    NP1:  STRIKE=195; DIP=48; SLIP= 120;   NP2:  STRIKE=335; DIP=50; SLIP=  62
     CMTS: (HRV) C090482A   DATA: GDSN            ; L.P. BODY WAVES:  10S, 26C, T= 45;   MANTLE WAVES:   7S, 20C, T=135
     CENTROID LOCATION   OT 2: 8:20.8 0.2;  LAT 14.59S 0.03;  LON 172.95W 0.02;  DEP  10.1 FIX;        HALF-DURATION  4.0
     MT: Scale 10**25 d-cm; MRR= 1.15 0.03; MTT=-0.77 0.03; MFF=-0.39 0.04; MRT=-0.64 0.09; MRF= 1.76 0.10; MTF=-1.56 0.03
     PRINCIPAL AXES:  (T) VAL=  2.86; PLG=47; AZM=237;  (N) VAL= -0.53; PLG=39; AZM= 28;  (P) VAL= -2.33;  PLG=15; AZM=131
     BEST DOUBLE COUPLE:      Mo= 2.6*10**25;    NP1:  STRIKE=261; DIP=46; SLIP= 152;   NP2:  STRIKE= 11; DIP=70; SLIP=  48
04   07 56 06.2  15.559 N  147.581 E   46 D  5.5 5.2    0.9  137  MARIANA ISLANDS REGION
     CMTS: (HRV) B090482B   DATA: GDSN            ; L.P. BODY WAVES:   8S, 23C, T= 45;
     CENTROID LOCATION   OT 7:56: 3.6 0.4;  LAT 15.24N 0.06;  LON 148.04E 0.05;  DEP  33.3 3.8;        HALF-DURATION  1.8
     MT: Scale 10**24 d-cm; MRR=-1.55 0.08; MTT=-0.54 0.11; MFF= 2.09 0.10; MRT= 0.34 0.19; MRF= 0.83 0.22; MTF=-0.06 0.10
     PRINCIPAL AXES:  (T) VAL=  2.27; PLG=12; AZM=270;  (N) VAL= -0.45; PLG=15; AZM=  4;  (P) VAL= -1.82;  PLG=71; AZM=142
     BEST DOUBLE COUPLE:      Mo= 2.1*10**24;    NP1:  STRIKE=342; DIP=35; SLIP=-116;   NP2:  STRIKE=193; DIP=59; SLIP= -73
04   12 33 56.6  33.012 N   76.107 E   33 N  4.3          1.0   10  KASHMIR-INDIA BORDER REGION
04   13 20 46.5  11.464 S  166.452 E  210    4.9          1.2   39  SANTA CRUZ ISLANDS
04   13 31 14.9  25.524 S  176.245 W   33 N  6.0 6.0      1.0  200  SOUTH OF FIJI ISLANDS. Ms 5.6 (PAS). [FS].
          FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE= 12;  DIP=70;  SLIP=  85.   NP2:  STRIKE=206;  DIP=21;  SLIP= 103
          PRINCIPAL AXES:   (T)  PLG=65;  AZM=274.   (P)  PLG=25;  AZM=106
                                                               Poorly controlled reverse fault type mechanism. NP2
                                                               designated as the fault plane.
     MOMENT TENSOR SOLUTION.   NO OF STA  10.   SCALE 10**25 D-CM
     PRINCIPAL AXES:  (T) VAL=  1.41; PLG=81; AZM=283;  (N) VAL= -0.04; PLG= 1; AZM=188;  (P) VAL= -1.37;  PLG= 9; AZM= 98
     BEST DOUBLE COUPLE:      Mo= 1.4*10**25;    NP1:  STRIKE=187; DIP=36; SLIP=  89;   NP2:  STRIKE=  8; DIP=54; SLIP=  91
     CMTS: (HRV) C090482C   DATA: GDSN            ; L.P. BODY WAVES:  12S, 31C, T= 45;   MANTLE WAVES:   8S, 23C, T=135
     CENTROID LOCATION   OT 13:31:20.4 0.2;  LAT 25.55S 0.03;  LON 176.03W 0.03;  DEP  10.1 FIX;        HALF-DURATION  3.3
     MT: Scale 10**25 d-cm; MRR= 0.82 0.02; MTT= 0.13 0.03; MFF=-0.95 0.02; MRT=-0.09 0.08; MRF= 1.15 0.09; MTF= 0.00 0.02
     PRINCIPAL AXES:  (T) VAL=  1.39; PLG=64; AZM=262;  (N) VAL=  0.13; PLG= 3; AZM=357;  (P) VAL= -1.52;  PLG=26; AZM= 88
     BEST DOUBLE COUPLE:      Mo= 1.4*10**25;    NP1:  STRIKE=185; DIP=19; SLIP=  98;   NP2:  STRIKE=356; DIP=71; SLIP=  87
04   14 48 43.2? 44.59  N  115.06  W    5 G                0.9   13  WESTERN IDAHO. ML 3.2 (MEIS).
04   15 50 39.6  38.800 N   20.277 E   10 G  4.6          1.1   40  GREECE. ML 4.8 (TIR), 4.2 (ATH). Felt on Levkas.
04   15 58 29.8  38.565 N   20.179 E   10 G  3.9          1.0   18  GREECE. ML 3.8 (ATH), 3.7 (TIR).
04   17 59 58.4  69.206 N   81.647 E    0 G  5.2 3.5      0.9  151  WESTERN SIBERIA
04   19 51 19.1  22.993 N   95.750 E   33 N  4.8 4.4      1.2   58  BURMA. Felt.
04   20 30 18.0* 36.388 N  141.162 E   53    4.2          0.7   15  NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at Mito.
04   22 26 15.9   5.593 S  149.524 E  143    5.6          0.8  119  NEW BRITAIN REGION
     CMTS: (HRV) B090482D   DATA: GDSN            ; L.P. BODY WAVES:   8S, 23C, T= 45;
     CENTROID LOCATION   OT 22:26:16.8 0.5;  LAT  5.83S 0.04;  LON 148.89E 0.05;  DEP 146.9 1.6;        HALF-DURATION  1.8
     MT: Scale 10**24 d-cm; MRR=-2.14 0.11; MTT= 0.89 0.13; MFF= 1.25 0.15; MRT=-0.98 0.09; MRF=-0.69 0.13; MTF=-0.92 0.15
     PRINCIPAL AXES:  (T) VAL=  2.01; PLG= 1; AZM=230;  (N) VAL=  0.64; PLG=23; AZM=139;  (P) VAL= -2.66;  PLG=67; AZM=323
     BEST DOUBLE COUPLE:      Mo= 2.3*10**24;    NP1:  STRIKE=342; DIP=48; SLIP= -58;   NP2:  STRIKE=119; DIP=51; SLIP=-120
04   22 41 38.1? 53.61  N  163.74  W   33 N  4.7          0.7    9  UNIMAK ISLAND REGION
05   02 32 22.7  30.026 N  138.791 E  434    4.2          0.6   13  SOUTH OF HONSHU, JAPAN
05   02 36 36.9  14.130 N   91.765 W   62    5.4          0.8  210  GUATEMALA. Ms 5.3 (BRK).
05   03 13 38.0  39.281 N   22.949 E   10 G                1.0   14  GREECE. ML 3.2 (ATH).
05   03 58 19.4* 15.596 N  147.806 E   33 N  4.2          0.9   14  MARIANA ISLANDS REGION
05   05 21 26.6& 32.933 N  115.850 W    4 G  3.7             17  CALIFORNIA-MEXICO BORDER REGION. <PAS-P>. ML 4.4 (PAS).
                                                               Felt (IV) at Calexico and (III) at Heber, Plaster City,
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Ocotillo, Seeley and Mount Laguna. Also felt at Brawley and El Centro.

05 06 14 07.6 31.927 N 50.390 E 33 N 4.7 1.0 31 IRAN
05 06 27 39.8& 33.450 N 116.900 W 3 G 11 SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
05 06 58 22.6* 6.412 N 82.650 W 10 G 4.5 4.1 1.0 8 SOUTH OF PANAMA
05 07 57 23.9 5.954 S 130.686 E 50 4.6 0.9 9 BANDA SEA
05 10 11 09.4& 35.202 N 84.521 W 1& G 9 TENNESSEE. <TEIC>. mbLg 2.8 (NEIS). Felt (IV) at Reliance and (III) at Benton, Delano and Etowah.
05 10 18 04.3 13.199 S 14.962 W 10 G 4.9 0.8 20 SOUTH ATLANTIC RIDGE
05 10 20 49.0* 24.716 N 121.971 E 33 N 4.5 0.9 7 TAIWAN
05 11 28 53.1 12.523 S 14.751 W 10 G 5.2 5.1 0.7 48 SOUTH ATLANTIC RIDGE
05 11 42 54.2 15.639 N 147.596 E 38 5.3 4.8 0.9 111 MARIANA ISLANDS REGION
05 12 07 25.2 15.633 N 147.561 E 33 N 5.3 5.3 0.8 76 MARIANA ISLANDS REGION
05 12 15 04.4 15.546 N 147.574 E 33 N 4.7 0.8 35 MARIANA ISLANDS REGION
05 12 18 47.9 15.524 N 147.548 E 33 N 4.7 1.0 22 MARIANA ISLANDS REGION
05 12 25 47.1 15.587 N 147.680 E 33 N 4.7 0.8 17 MARIANA ISLANDS REGION
05 12 34 39.2* 7.698 N 37.939 W 10 G 4.8 1.0 7 CENTRAL MID-ATLANTIC RIDGE
05 14 22 30.5& 15.952 N 60.317 W 33 N 0.2 9 LEEWARD ISLANDS
05 14 41 17.8* 10.849 S 164.268 E 33 N 1.3 6 SANTA CRUZ ISLANDS REGION
05 17 46 47.4? 51.83 N 174.20 W 33 N 4.5 1.0 14 ANDREANOF ISLANDS, ALEUTIAN IS.
05 17 58 43.6 11.590 S 118.043 E 33 N 1.4 22 SOUTH OF SUMBAWA ISLAND
05 21 09 47.1 15.828 S 167.979 E 232 5.4 1.2 139 VANUATU ISLANDS. mb 5.7 (BRK).
CMTS: (HRV) B090582A DATA: GDSN ; L.P. BODY WAVES: 10S, 25C, T= 45;
CENTROID LOCATION OT 21: 9:53.7 0.3; LAT 15.71S 0.06; LON 167.57E 0.04; DEP 224.2 2.2; HALF-DURATION 3.0
MT: Scale 10**24 d-cm; MRR= 2.02 0.26; MTT=-3.46 0.41; MFF= 1.44 0.35; MRT=-5.30 0.23; MRF=-2.71 0.27; MTF= 2.80 0.33
PRINCIPAL AXES: (T) VAL= 7.59; PLG=45; AZM=132; (N) VAL= -0.76; PLG=31; AZM=260; (P) VAL= -6.83; PLG=29; AZM= 9
BEST DOUBLE COUPLE: Mo= 7.2*10**24; NP1: STRIKE=149; DIP=33; SLIP= 163; NP2: STRIKE=256; DIP=81; SLIP= 58
05 21 43 06.2* 16.459 S 173.884 W 213 4.9 1.1 12 TONGA ISLANDS
05 23 53 16.5 24.050 N 122.440 E 33 N 5.2 5.3 1.0 88 TAIWAN REGION
06 00 37 59.2* 44.020 N 148.283 E 33 N 4.9 0.8 62 KURIL ISLANDS
06 01 10 13.7 13.149 N 124.237 E 21 5.1 0.9 31 LUZON, PHILIPPINE ISLANDS. Felt (II RF) at Legaspi.
06 01 47 02.7 29.325 N 140.360 E 176 6.5 1.1 413 SOUTH OF HONSHU, JAPAN. mb 6.7 (PAS). Felt (III JMA) on Honshu. [FS].
FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE= 56; DIP=70; SLIP= 215. NP2: STRIKE=315; DIP=57; SLIP= 336
PRINCIPAL AXES: (T) PLG= 8; AZM=184. (P) PLG=39; AZM=280
Moderately well controlled normal fault type mechanism with a fair amount of strike-slip component. NP to be designated as the fault plane not determined.
MOMENT TENSOR SOLUTION. NO OF STA 11. SCALE 10**26 D-CM
PRINCIPAL AXES: (T) VAL= 1.38; PLG=26; AZM=178; (N) VAL= 0.14; PLG=10; AZM= 83; (P) VAL= -1.52; PLG=62; AZM=334
BEST DOUBLE COUPLE: Mo= 1.5*10**26; NP1: STRIKE=290; DIP=21; SLIP= -61; NP2: STRIKE= 80; DIP=72; SLIP=-100
CMTS: (HRV) C090682A DATA: GDSN ; L.P. BODY WAVES: 12S, 33C, T= 45; MANTLE WAVES: 10S, 27C, T=135
CENTROID LOCATION OT 1:47: 6.7 0.1; LAT 29.18N 0.01; LON 140.65E 0.02; DEP 155.6 0.6; HALF-DURATION 8.0
MT: Scale 10**26 d-cm; MRR=-0.56 0.02; MTT= 0.21 0.03; MFF= 0.35 0.03; MRT=-0.74 0.02; MRF=-1.17 0.02; MTF=-1.44 0.02
PRINCIPAL AXES: (T) VAL= 1.79; PLG=11; AZM= 51; (N) VAL= 0.45; PLG=49; AZM=154; (P) VAL= -2.25; PLG=39; AZM=312
BEST DOUBLE COUPLE: Mo= 2.0*10**26; NP1: STRIKE=100; DIP=55; SLIP=-158; NP2: STRIKE=356; DIP=72; SLIP= -37
06 05 51 31.2* 43.025 S 16.203 W 10 G 5.2 4.9 1.2 17 SOUTH ATLANTIC RIDGE
06 06 18 41.7? 46.63 N 10.14 E 10 G 1.2 9 NORTHERN ITALY
06 07 48 54.9 56.844 N 151.588 W 33 N 5.7 5.6 0.9 241 KODIAK ISLAND REGION. ML 6.0 (PMR), Ms 5.4 (BRK). Felt on Kodiak.
CMTS: (HRV) B090682B DATA: GDSN ; L.P. BODY WAVES: 13S, 27C, T= 45;
CENTROID LOCATION OT 7:48:59.4 0.5; LAT 56.91N 0.09; LON 151.38W 0.11; DEP 18.7 5.2; HALF-DURATION 3.0
MT: Scale 10**24 d-cm; MRR= 1.37 0.19; MTT=-0.60 0.23; MFF=-0.77 0.18; MRT= 3.80 1.19; MRF= 3.49 1.13; MTF=-1.11 0.23
PRINCIPAL AXES: (T) VAL= 5.19; PLG=53; AZM=320; (N) VAL= 0.41; PLG= 2; AZM=227; (P) VAL= -5.60; PLG=36; AZM=136
BEST DOUBLE COUPLE: Mo= 5.4*10**24; NP1: STRIKE=215; DIP= 9; SLIP= 78; NP2: STRIKE= 47; DIP=82; SLIP= 92
06 08 53 21.8 20.375 S 68.745 W 161 4.7 1.4 14 CHILE-BOLIVIA BORDER REGION
06 09 07 37.2 35.619 N 140.683 E 58 4.6 1.1 18 NEAR EAST COAST OF HONSHU, JAPAN. Felt (II JMA) at Choshi.
06 11 13 26.2 32.138 S 71.456 W 73 5.3 0.9 76 NEAR COAST OF CENTRAL CHILE. Felt (IV) in the La Ligua-Los Vilos area.
06 15 10 25.1& 23.814 N 122.079 E 12 0.7 7 TAIWAN REGION
06 15 12 09.6& 32.933 N 115.850 W 6 G 7 CALIFORNIA-MEXICO BORDER REGION. <PAS-P>. ML 3.3 (PAS).
06 19 16 40.8? 31.92 S 70.65 W 33 N 0.8 10 CHILE-ARGENTINA BORDER REGION
06 22 26 06.8 5.117 N 82.666 W 10 G 4.7 4.6 0.9 26 SOUTH OF PANAMA
06 23 41 35.9 32.654 S 70.042 W 115 0.8 11 CHILE-ARGENTINA BORDER REGION
07 01 43 26.2* 36.547 N 139.847 E 92 0.6 10 HONSHU, JAPAN. Felt (I JMA) at Utsunomiya.
07 01 47 45.4 7.021 S 129.509 E 124 5.3 1.1 62 BANDA SEA
07 02 18 34.4 38.219 N 134.258 E 417 D 4.8 1.0 88 SEA OF JAPAN
07 03 55 13.4? 56.91 N 151.24 W 33 N 4.5 0.9 13 KODIAK ISLAND REGION
07 05 22 06.2* 16.164 N 99.134 W 12 4.4 1.2 20 NEAR COAST OF GUERRERO, MEXICO
07 06 13 27.3 4.721 S 139.318 E 33 N 5.0 1.2 48 WEST IRIAN
07 11 00 25.8 22.311 S 170.569 E 33 N 5.1 1.3 54 LOYALTY ISLANDS REGION
07 15 51 23.9* 41.827 N 142.707 E 58 4.6 0.9 9 HOKKAIDO, JAPAN REGION
07 19 29 44.9* 6.670 S 129.907 E 155 4.4 1.3 13 BANDA SEA
07 21 38 33.5* 36.668 N 121.291 W 5 G 0.9 11 CENTRAL CALIFORNIA. ML 3.2 (BRK).
08 02 37 32.4 27.060 N 140.193 E 440 5.3 0.8 196 BONIN ISLANDS REGION. Felt (I JMA) on Chichijima.
CMTS: (HRV) B090882A DATA: GDSN ; L.P. BODY WAVES: 9S, 20C, T= 45;
CENTROID LOCATION OT 2:37:37.2 1.1; LAT 26.76N 0.15; LON 140.49E 0.10; DEP 441.4 7.1; HALF-DURATION 1.2
MT: Scale 10**23 d-cm; MRR=-4.51 0.67; MTT=-2.16 0.98; MFF= 6.67 0.93; MRT=-4.53 1.10; MRF= 1.09 0.89; MTF=-2.27 1.03
PRINCIPAL AXES: (T) VAL= 7.65; PLG=11; AZM=252; (N) VAL= 0.39; PLG=36; AZM=153; (P) VAL= -8.04; PLG=52; AZM=357
BEST DOUBLE COUPLE: Mo= 7.8*10**23; NP1: STRIKE= 18; DIP=46; SLIP= -35; NP2: STRIKE=136; DIP=66; SLIP=-130
08 04 39 12.5* 36.673 N 121.290 W 5 G 0.9 13 CENTRAL CALIFORNIA. ML 3.1 (BRK).
08 05 41 46.6* 15.229 S 173.514 W 33 N 4.9 5.2 1.1 16 TONGA ISLANDS
08 06 24 25.0 3.658 N 124.676 E 318 4.7 1.0 34 CELEBES SEA
08 07 13 30.3 3.277 S 177.513 E 33 N 5.1 0.7 48 GILBERT ISLANDS REGION
08 08 36 51.2 6.705 N 76.628 W 43 4.3 0.9 23 NORTHERN COLOMBIA
08 10 17 17.3 14.650 S 173.337 W 33 N 5.1 5.1 0.9 66 SAMOA ISLANDS REGION
08 10 20 45.9& 33.723 S 70.651 W 33 N 0.4 7 CHILE-ARGENTINA BORDER REGION
08 11 47 30.9* 20.901 S 35.047 E 10 G 1.0 6 MOZAMBIQUE
08 11 54 57.9* 36.670 N 121.290 W 5 G 0.8 13 CENTRAL CALIFORNIA. ML 3.3 (BRK).
08 12 11 37.4* 36.653 N 121.298 W 5 G 0.8 13 CENTRAL CALIFORNIA. ML 3.4 (BRK).
08 16 43 38.4& 45.376 N 5.916 E 10 G 0.5 9 FRANCE. ML 2.8 (LDG).
08 17 55 04.6 37.954 N 26.794 E 10 G 0.9 12 DODECANESE ISLANDS. ML 3.9 (ATH).

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08   17 57 50.0  45.243 N   98.673 E   33 N  4.8        1.0   42  MONGOLIA
08   18 07 05.06 37.480 N  118.877 W    2 G                 11  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.4 (BRK).
08   18 42 19.16 37.490 N  118.883 W    5 G                 17  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.8 (BRK),
                                                                3.5 (PAS).
08   19 00 46.0  41.392 N   14.949 E   10 G           1.1   13  SOUTHERN ITALY. ML 4.3 (TRI), 4.0 (TIR).
08   19 51 27.8  26.038 S   27.800 E    5 G           1.4    8  REPUBLIC OF SOUTH AFRICA
08   21 12 26.2  34.287 S   58.082 E   10 G  5.4 5.2   1.0  140  SOUTH INDIAN OCEAN
     CMTS: (NRV) B090882B    DATA:  GDSN              ;  L.P. BODY WAVES:   98, 26C, T= 45;
     CENTROID LOCATION   OT 21:12:31.5 0.4;  LAT 34.50S 0.07;  LON  58.29E 0.06;  DEP  10.1 FIX;        HALF-DURATION  1.7
     MT: Scale 10**24 d-cm; MRR=-0.92 0.08; MTT= 1.71 0.13; MFF=-0.79 0.08; MRT=-1.66 0.24; MRF=-0.28 0.22; MTF=-1.36 0.08
     PRINCIPAL AXES:  (T) VAL=  2.86; PLG=21;  AZM=199;  (N) VAL= -0.56;  PLG=39;  AZM= 90;  (P) VAL= -2.29;  PLG=43;  AZM=310
     BEST DOUBLE COUPLE:       Mo= 2.6*10**24;   NP1:  STRIKE=335; DIP=62; SLIP= -19;   NP2:  STRIKE= 79; DIP=77; SLIP=-131
09   02 26 20.0* 15.796 N   99.459 W   33 N  3.7        0.7   13  OFF COAST OF GUERRERO, MEXICO
09   03 06 43.5  30.312 N  137.811 E  477    4.9        0.9   44  SOUTH OF HONSHU, JAPAN
09   03 24 14.5I 15.591 N   98.665 W   33 N              0.8   11  OFF COAST OF GUERRERO, MEXICO
09   04 09 19.2  34.880 N  139.119 E   26                1.0   12  NEAR S. COAST OF HONSHU, JAPAN. Felt (II JMA) on Oshima
                                                                and the Izu Peninsula.
09   04 17 25.2? 31.45  S   69.96  W  114                0.2    6  SAN JUAN PROVINCE, ARGENTINA
09   05 43 52.3   3.270 S  177.573 E   33 N  5.6 6.9     0.9  124  GILBERT ISLANDS REGION
09   05 47 13.2  41.003 N   27.716 E   10 G  4.0          1.2   18  TURKEY. ML 4.6 (ATH). Felt at Istanbul.
09   06 40 21.4  35.546 S  102.423 W   10 G  5.0 5.0     0.9   34  SOUTHERN PACIFIC OCEAN
09   10 19 55.3? 57.05  N  156.15  W   90    4.1          1.2   12  ALASKA PENINSULA
09   12 05 30.9* 28.639 N   81.109 E   33 N  4.4 4.2     1.3   14  NEPAL-INDIA BORDER REGION
09   12 49 09.2  43.314 N  146.738 E   52    4.6          1.0   43  KURIL ISLANDS. Felt (I JMA) at Nemuro, Hokkaido.
09   14 25 36.2* 38.567 N  141.910 E   68                0.6   10  NEAR EAST COAST OF HONSHU, JAPAN. Felt (II JMA) in
                                                                northeastern Honshu.
09   15 42 22.1  15.530 N  147.558 E   33 N  5.4 5.1     0.9  132  MARIANA ISLANDS REGION
     CMTS:  (NRV) B090982A    DATA:  GDSN              ;  L.P. BODY WAVES:   9S, 24C, T= 45;
     CENTROID LOCATION   OT 15:42:28.5 0.8;  LAT 14.84N 0.13;  LON 148.49E 0.12;  DEP  10.1 FIX;        HALF-DURATION  1.2
     MT: Scale 10**23 d-cm; MRR=-8.73 0.67; MTT= 2.70 0.85; MFF= 6.03 0.95; MRT= 1.59 3.64; MRF= 0.   3.14; MTF= 0.17 0.72
     PRINCIPAL AXES:  (T) VAL=  6.04; PLG= 0;  AZM=273;  (N) VAL=  2.91;  PLG= 8;  AZM=  3;  (P) VAL= -8.95;  PLG=82;  AZM=180
     BEST DOUBLE COUPLE:       Mo= 7.5*10**23;   NP1:  STRIKE=355; DIP=45; SLIP=-101;   NP2:  STRIKE=191; DIP=46; SLIP= -79
09   16 09 30.2  15.535 N  147.618 E   33 N  5.2          1.0   65  MARIANA ISLANDS REGION
09   16 13 59.5  15.612 N  147.665 E   33 N  4.9          0.9   40  MARIANA ISLANDS REGION
09   16 40 13.3  22.078 S  169.408 E   33 N  5.5 5.0     1.1  120  LOYALTY ISLANDS REGION
     CMTS:  (NRV) B090982B    DATA:  GDSN              ;  L.P. BODY WAVES:  10S, 25C, T= 45;
     CENTROID LOCATION   OT 16:40:15.9 0.9;  LAT 22.28S 0.09;  LON 169.18E 0.12;  DEP  10.1 FIX;        HALF-DURATION  1.6
     MT: Scale 10**23 d-cm; MRR=-8.58 0.70; MTT= 5.69 0.79; MFF= 2.88 0.74; MRT= 2.77 1.88; MRF=-9.43 2.66; MTF=-0.90 0.50
     PRINCIPAL AXES:  (T) VAL=  9.46; PLG=27;  AZM= 56;  (N) VAL=  4.62;  PLG= 9;  AZM=151;  (P) VAL=-14.08;  PLG=61;  AZM=258
     BEST DOUBLE COUPLE:       Mo= 1.2*10**24;   NP1:  STRIKE=123; DIP=19; SLIP=-119;   NP2:  STRIKE=334; DIP=73; SLIP= -80
09   16 44 04.8  15.530 N  147.662 E   33 N  4.2          0.6   13  MARIANA ISLANDS REGION
09   19 43 48.1  31.685 S   68.136 W   99                0.9   10  SAN JUAN PROVINCE, ARGENTINA
09   20 19 23.9I 23.919 N  121.762 E   33 N              0.5    7  TAIWAN
09   21 26 51.0* 45.626 N   15.297 E   10 G              1.2    8  YUGOSLAVIA. ML 3.7 (TRI), 3.5 (GRF). Felt in the Novo
                                                                Mesto area.
09   22 13 18.5* 41.586 N  143.168 E   33 N  4.4          1.3    6  HOKKAIDO, JAPAN  REGION. Felt (II JMA) at Urakawa.
09   22 46 52.1? 31.46  S   71.60  W   33 N              1.1   11  NEAR COAST OF CENTRAL CHILE
09   23 39 16.36 37.473 N  118.847 W    5 G                 11  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.5 (BRK).
10   01 08 10.1* 29.173 N  140.746 E  151    4.8          0.3   19  SOUTH OF HONSHU, JAPAN
10   01 43 15.3   3.431 S  177.654 E   33 N  5.1          0.8   66  GILBERT ISLANDS REGION
10   02 30 14.2* 39.114 N   23.753 E   10 G              0.5    5  AEGEAN SEA. ML 3.0 (ATH).
10   02 31 52.8  50.030 N   18.687 E   10 G  4.9          1.3   16  POLAND. ML 4.2 (GRF).
10   04 48 31.2  38.084 N   22.749 E   10 G  4.2          1.1   34  GREECE. ML 4.3 (TIR), 3.9 (ATH).
10   05 48 00.0* 56.215 N  150.195 W   33 N  4.5 4.3     0.8   34  GULF OF ALASKA. ML 4.2 (PMR).
10   06 26 48.4  38.122 N   22.690 E   10 G  4.6          1.2   69  GREECE. ML 4.7 (TIR), 4.1 (ATH).
10   06 29 43.6  38.092 N   22.723 E   10 G  4.5          1.2   35  GREECE. ML 4.7 (TIR), 4.0 (ATH).
10   08 39 11.5* 45.159 N   23.004 E   10 G              0.7    7  ROMANIA
10   10 20 37.6  55.178 N  161.698 E   33 N  5.0 4.5     0.8  116  NEAR EAST COAST OF KAMCHATKA
10   13 11 06.5  73.466 N    7.804 E   10 G  4.6          1.0   29  GREENLAND SEA
10   13 41 43.2   2.463 N  126.748 E   57    4.8          1.0   33  MOLUCCA PASSAGE
10   17 47 05.66 33.633 N  119.017 W    6 G                  8  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
10   18 04 29.0? 56.16  N  154.85  W   33 N  4.3          1.4    7  KODIAK ISLAND REGION
10   18 27 06.5  31.063 S   68.061 W   99                0.9    9  SAN JUAN PROVINCE, ARGENTINA
10   22 25 08.3  35.748 N    1.325 E   10 G              1.0   20  ALGERIA
10   23 02 41.3* 19.024 S  178.567 W  421    4.9          1.1   37  FIJI ISLANDS REGION
11   00 07 35.9? 17.37  N   83.35  W   10 G  4.5 3.1     1.6   10  CARIBBEAN SEA
11   00 42 32.0? 33.22  S   71.75  W   33 N              1.0    8  NEAR COAST OF CENTRAL CHILE
11   04 48 38.8  35.637 N    1.358 E   10 G  4.5 4.1     1.2   55  ALGERIA
11   06 00 55.1* 31.198 S   69.548 W   10                0.6    7  SAN JUAN PROVINCE, ARGENTINA
11   06 31 48.9  26.893 S  176.336 W   33 N  5.3 4.9     1.0   55  SOUTH OF FIJI ISLANDS
11   06 57 44.5  26.907 S  176.174 W   33 N  5.0 4.9     1.0   24  SOUTH OF FIJI ISLANDS
11   08 01 41.1   7.582 S   75.562 W   40    4.8          1.1   25  NORTHERN PERU
11   08 30 50.8? 33.55  S   68.64  W   33 N              1.5    8  MENDOZA PROVINCE, ARGENTINA
11   08 55 43.1* 5.575 N   75.703 W   10 G  4.6          1.5   11  COLOMBIA. Felt at Manizales, Chinchina and Aguadas.
11   09 57 44.3* 23.777 N  121.708 E   23    4.0          1.3   12  TAIWAN
11   10 54 05.8  40.374 N   25.364 E    6    4.1 3.8      1.1   53  AEGEAN SEA. ML 4.4 (ATH).
11   11 59 32.36 37.412 N  121.773 W    8 G                 12  CENTRAL CALIFORNIA. <BRK>. ML 3.0 (BRK). Felt.
11   12 38 32.2* 13.274 N   90.593 W   53                1.1   12  NEAR COAST OF GUATEMALA. Felt (II) at San Salvador, El
                                                                Salvador.
11   13 43 47.0* 31.337 S   67.780 W   10 G              1.5    9  SAN JUAN PROVINCE, ARGENTINA
11   13 55 31.66 33.800 N  118.233 W    4 G                  8  SOUTHERN CALIFORNIA. <PAS-P>. ML 2.6 (PAS). Felt at
                                                                Carson.
11   13 59 06.9* 15.613 N  147.828 E   36    4.3          0.3   10  MARIANA ISLANDS REGION
11   14 12 14.5  24.173 S   66.996 W  150    5.1          1.0  124  SALTA PROVINCE, ARGENTINA. Felt (II) at Antofagasta,
                                                                Chile.
11   14 19 59.4* 40.329 N   25.297 E   10 G              1.1    8  AEGEAN SEA
11   14 27 29.6  24.185 S   66.985 W  152    5.0          1.1   49  SALTA PROVINCE, ARGENTINA
11   15 02 31.5* 15.901 S  174.679 W   54    4.6          0.9   31  TONGA ISLANDS
11   15 22 01.4  41.748 N   21.848 E    4                 0.4   15  YUGOSLAVIA. ML 3.5 (TTG), 3.1 (TIR). Felt (V) in the
                                                                Titov Veles area.
11   15 39 36.6  46.016 N    7.111 E   10 G              0.7   14  SWITZERLAND. ML 2.9 (LDG).
11   18 48 29.5  39.308 N   27.855 E   18                0.7   14  TURKEY
11   21 00 55.1? 36.39  S   70.75  W  212                0.1    6  CHILE-ARGENTINA BORDER REGION
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11   21 12 05.6? 17.29  N   99.56  W   33 N                1.7    5  GUERRERO, MEXICO
11   21 35 49.4  36.372 N    1.668 E   10 G  4.7 3.8       1.1  128  ALGERIA. Felt in the El Asnam area.
11   21 40 12.2* 36.326 N    2.025 E   10 G  4.5           1.3   18  ALGERIA
11   23 55 06.2* 58.601 S   62.261 W   10 G  5.2 4.8       1.3   33  DRAKE PASSAGE
12   01 36 06.9* 3.638  S  177.656 E   33 N  4.3           0.8   10  GILBERT ISLANDS REGION
12   02 06 31.3% 39.294 N   27.889 E   20                  1.1    7  TURKEY
12   02 29 03.9  13.947 N  120.364 E   89                  1.2    9  MINDORO, PHILIPPINE ISLANDS
12   02 57 32.6  51.572 N   16.200 E   10 G  4.5           1.0   31  POLAND. ML 4.4 (GRF), 4.4 (KBA).
12   03 36 06.0* 39.018 N   30.073 E   10 G                1.4    6  TURKEY
12   03 42 43.3  41.990 N  142.606 E   70    4.8           0.9   42  HOKKAIDO, JAPAN  REGION. Felt (I JMA) at Urakawa and
                                                                     Tomakomai.
12   04 15 40.6% 40.305 N   28.854 E   10 G                1.0    6  TURKEY
12   06 34 57.3* 29.081 S   67.183 W   63    4.4           1.2   17  LA RIOJA PROVINCE, ARGENTINA
12   07 22 39.6  19.780 S  177.853 W  581    5.2           1.0   82  FIJI ISLANDS REGION
12   08 46 05.6  27.006 S  176.426 W   33 N  5.1 5.2       1.0   66  KERMADEC ISLANDS REGION
12   09 22 23.1  52.640 N  166.941 W   33 N  5.7 5.9       1.2  248  FOX ISLANDS, ALEUTIAN ISLANDS. Ms 5.9 (BRK), 5.6 (PAS).
   CMTS:  (HRV) B091282A   DATA:  GDSN          ;  L.P. BODY WAVES:  14S, 36C, T= 45;
   CENTROID LOCATION   OT  9:22:30.5 0.4;  LAT 52.74N 0.04;  LON 167.25W 0.07;  DEP  10.1 FIX;        HALF-DURATION  4.5
   MT: Scale 10**25 d-cm; MRR= 1.14 0.04; MTT=-1.04 0.04; MFF=-0.11 0.04; MRT= 2.10 0.12; MRF= 0.55 0.11; MTF=-0.88 0.05
   PRINCIPAL AXES:  (T) VAL=  2.42; PLG=59; AZM=359;  (N) VAL=  0.30; PLG=11; AZM=251;  (P) VAL= -2.72;  PLG=29; AZM=155
   BEST DOUBLE COUPLE:       Mo= 2.6*10**25;   NP1:  STRIKE=217; DIP=19; SLIP=  55;   NP2:  STRIKE= 74; DIP=75; SLIP= 101
12   09 28 14.1? 52.69  N  166.88  W   33 N  4.8           1.0    8  FOX ISLANDS, ALEUTIAN ISLANDS
12   09 28 39.5? 53.02  N  167.10  W   33 N  5.1           0.3    6  FOX ISLANDS, ALEUTIAN ISLANDS
12   09 32 38.8* 52.297 N  166.710 W   33 N  4.8           0.6   14  FOX ISLANDS, ALEUTIAN ISLANDS
12   09 50 51.7* 52.628 N  166.987 W   33 N  4.7           0.9   13  FOX ISLANDS, ALEUTIAN ISLANDS
12   10 05 17.3* 52.405 N  166.783 W   33 N  4.5           0.6   11  FOX ISLANDS, ALEUTIAN ISLANDS
12   10 11 26.3* 52.316 N  166.778 W   33 N  4.7           0.6   15  FOX ISLANDS, ALEUTIAN ISLANDS
12   10 27 45.5* 8.747  S  112.672 E   85    4.5           0.6    9  JAVA
12   11 59 52.0  52.642 N  166.848 W   33 N  5.2 4.8       1.1  174  FOX ISLANDS, ALEUTIAN ISLANDS. ML 5.0 (PMR).
12   12 18 26.8* 52.491 N  166.796 W   33 N  4.5           0.8   12  FOX ISLANDS, ALEUTIAN ISLANDS
12   13 03 07.1* 1.228  N  126.433 E   68    4.6           0.9   10  MOLUCCA PASSAGE. Felt in the Manado area, Sulawesi.
12   13 48 45.0* 31.207 S   68.396 W   97                  1.0    8  SAN JUAN PROVINCE, ARGENTINA
12   15 01 38.9? 52.50  N  166.80  W   33 N                0.9    6  FOX ISLANDS, ALEUTIAN ISLANDS
12   15 55 53.6& 33.800 N  118.200 W    6 G                       8  SOUTHERN CALIFORNIA. <PAS-P>. ML 2.5 (PAS). Felt at
                                                                     Carson.
12   15 56 06.6  0.868  N  126.036 E   71    4.9           0.9   40  MOLUCCA PASSAGE. Felt in the Manado area, Sulawesi.
12   16 50 37.7  52.819 N  167.053 W   33 N  5.5 5.1       1.1  188  FOX ISLANDS, ALEUTIAN ISLANDS. Ms 5.1 (BRK), ML 5.3
                                                                     (PMR).
   CMTS:  (HRV) B091282B   DATA:  GDSN          ;  L.P. BODY WAVES:  9S, 24C, T= 45;
   CENTROID LOCATION   OT 16:50:43.1 0.6;  LAT 52.61N 0.06;  LON 167.33W 0.11;  DEP  16.2 4.0;        HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 1.98 0.09; MTT=-1.86 0.10; MFF=-0.12 0.10; MRT= 2.12 0.60; MRF= 1.42 0.46; MTF=-1.10 0.13
   PRINCIPAL AXES:  (T) VAL=  3.17; PLG=65; AZM=318;  (N) VAL=  0.38; PLG= 5; AZM= 59;  (P) VAL= -3.55;  PLG=25; AZM=152
   BEST DOUBLE COUPLE:       Mo= 3.4*10**24;   NP1:  STRIKE=253; DIP=21; SLIP= 105;   NP2:  STRIKE= 58; DIP=70; SLIP=  84
12   16 57 56.1* 6.981  S   80.307 W   33 N  4.7           1.2   16  NEAR COAST OF NORTHERN PERU. Felt in the Chiclayo area.
12   16 57 59.0* 52.430 N  166.777 W   33 N  4.6           0.7    9  FOX ISLANDS, ALEUTIAN ISLANDS
12   17 24 00.1* 52.378 N  166.749 W   33 N  4.6           0.6   12  FOX ISLANDS, ALEUTIAN ISLANDS
12   19 03 12.8? 51.28  N   15.66  E   10 G                1.9   10  POLAND. ML 3.5 (GRF).
12   20 03 21.2  0.768  N   79.815 W   33 N  4.7           0.8   13  NEAR COAST OF ECUADOR
13   00 03 02.3% 39.255 N   29.408 E   10 G                1.3    6  TURKEY
13   00 50 22.6* 52.587 N  166.930 W   33 N  4.8           1.2   19  FOX ISLANDS, ALEUTIAN ISLANDS
13   01 26 09.9  8.130  S  107.241 E   60 D  5.1           1.2   31  JAVA
13   01 37 39.3* 32.654 S   69.640 W  147                  0.4   11  MENDOZA PROVINCE, ARGENTINA
13   03 08 55.9* 31.785 S   69.448 W  143                  0.6   10  SAN JUAN PROVINCE, ARGENTINA
13   04 25 28.3& 37.500 N  118.850 W    3 G                      14  CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. ML 3.0 (PAS),
                                                                     3.0 (BRK).
13   04 48 27.2* 31.716 S   67.999 W  106                  0.8    8  SAN JUAN PROVINCE, ARGENTINA
13   05 45 53.9* 41.376 N   20.040 E   10 G  3.6           1.0   11  ALBANIA. ML 4.0 (SDA), 3.9 (TTG). Felt (V) in Albania.
13   09 04 25.9& 31.783 N  116.667 W    5 G                       5  BAJA CALIFORNIA. <PAS-P>. ML 3.3 (PAS).
13   09 19 28.2* 49.090 N  128.648 W   10 G  4.5           1.1   14  VANCOUVER ISLAND REGION
13   09 55 05.8* 15.669 N   95.658 W   33 N  4.4           1.2   16  NEAR COAST OF OAXACA, MEXICO
13   11 34 55.2* 52.734 N  166.920 W   33 N  4.7 4.1       1.1   38  FOX ISLANDS, ALEUTIAN ISLANDS
13   16 36 17.1  23.907 S   68.035 W   32    5.0           1.2   29  NORTHERN CHILE
13   16 46 58.0* 17.965 S  178.481 W  604    4.6           1.0   24  FIJI ISLANDS REGION
13   16 51 36.2* 36.266 N  139.816 E   64                  0.4    9  HONSHU, JAPAN
13   18 03 35.8  37.544 N  141.335 E   58 D  5.1           0.9  114  NEAR EAST COAST OF HONSHU, JAPAN. Felt (III JMA) at
                                                                     Fukushima, (II JMA) in the Mito-Sendai area and (I JMA)
                                                                     at Ofunato and Morioka.
13   19 08 51.7  3.505  S  177.575 E   33 N  5.2 5.1       1.1  109  GILBERT ISLANDS REGION
13   19 50 58.1% 39.308 N   15.490 E  269    4.2           1.1   40  SOUTHERN ITALY
13   20 06 42.4& 33.181 S   71.080 W   33 N                0.8    6  NEAR COAST OF CENTRAL CHILE
13   21 48 13.6* 62.808 N  150.734 W   33 N                0.5    8  CENTRAL ALASKA. ML 3.0 (PMR).
14   00 26 04.& 15.502 N  147.716 E   38    4.7           0.7   31  MARIANA ISLANDS REGION
14   02 22 18.9? 40.37  N   26.15  E   10 G                1.7    5  TURKEY
14   03 09 25.5* 31.257 S   69.042 W  150 G                1.2    7  SAN JUAN PROVINCE, ARGENTINA
14   03 27 49.7* 5.833  S  151.403 E   86    4.1           1.4    6  NEW BRITAIN REGION
14   03 47 18.7? 32.21  S   72.80  W   33 N                0.8    6  OFF COAST OF CENTRAL CHILE
14   03 53 42.5  3.465  S  177.704 E   33 N  5.4 5.3       0.9  133  GILBERT ISLANDS REGION
14   04 41 29.2  44.223 N   11.287 E   10 G                0.8    8  NORTHERN ITALY. ML 3.2 (PRO), 2.8 (LDG).
14   05 10 23.5* 24.350 N  121.765 E   13    4.2           1.1   25  TAIWAN
14   05 11 43.8* 31.118 S  179.546 W   33 N  5.4 5.1       1.3   33  KERMADEC ISLANDS REGION
14   05 37 36.9* 3.920  S  177.832 E   33 N  4.1           0.9    7  GILBERT ISLANDS REGION
14   06 01 29.6  25.918 N   95.327 E   99    4.8           0.9    9  BURMA-INDIA BORDER REGION
14   07 24 32.2* 47.980 N   7.609  E   10 G                0.3    5  SWITZERLAND. ML 2.8 (LDG).
14   09 20 25.5* 3.958  S  126.284 E   33 N  4.3           1.5    7  BURU
14   11 37 22.4  43.476 N  140.153 E  207    5.1           1.0  134  HOKKAIDO, JAPAN  REGION
14   12 42 23.7  27.068 S  176.443 W   33 N  5.3 4.8       1.2   61  KERMADEC ISLANDS REGION
14   12 49 05.6* 24.308 N  122.225 E   10 G  3.7           1.6    8  TAIWAN REGION
14   14 06 50.5* 29.331 N  142.201 E   33 N  4.5           1.1    7  SOUTH OF HONSHU, JAPAN
14   15 07 49.2* 27.060 S  176.413 W   33 N  4.8 4.7       1.3   16  KERMADEC ISLANDS REGION
14   16 29 20.0  31.278 S   68.547 W  118    4.3           1.0   19  SAN JUAN PROVINCE, ARGENTINA
14   18 14 50.7* 59.283 N  151.711 W  109                  0.8   16  KENAI PENINSULA, ALASKA
14   18 17 02.8* 7.230  S  147.991 E   37    5.2 6.4       1.3   26  EAST PAPUA NEW GUINEA REGION. Ms 6.6 (BRK), 6.1 (PAS).
   CMTS:  (HRV) C091482A   DATA:  GDSN          ;  L.P. BODY WAVES:  16S, 38C, T= 45;   MANTLE WAVES:   8S, 23C, T=135
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CENTROID LOCATION OT 18:17:12.8 0.3; LAT 7.33S 0.03; LON 147.97E 0.05; DEP 10.1 FIX; HALF-DURATION 4.8
MT: Scale 10**25 d-cm; MRR= 0.60 0.05; MTT=-0.63 0.05; MFF= 0.03 0.07; MRT= 5.35 0.17; MRF= 0.61 0.20; MTF=-0.14 0.05
PRINCIPAL AXES: (T) VAL= 5.39; PLG=68; AZM=354; (N) VAL= 0.05; PLG= 1; AZM=263; (P) VAL= -5.45; PLG=42; AZM=173
BEST DOUBLE COUPLE: Mo= 5.4*10**25; NP1: STRIKE=252; DIP= 3; SLIP= 78; NP2: STRIKE= 83; DIP=87; SLIP= 91

14	18	32	23.8*	32.274	N	141.395	E	33	N	4.7	0.7	23	SOUTH OF HONSHU, JAPAN
14	19	24	33.8	50.394	N	4.188	E	10	G		0.9	26	BELGIUM. ML 3.4 (LDG).
14	19	29	07.2*	50.451	N	4.055	E	10	G		0.9	9	BELGIUM. ML 2.6 (LDG).
14	21	18	38.6	7.381	S	13.427	W	10	G	4.9	0.7	52	ASCENSION ISLAND REGION
14	22	42	11.7*	39.231	N	28.889	E	10	G		0.9	6	TURKEY
14	22	50	08.2*	29.724	N	142.017	E	33	N	4.3	0.6	11	SOUTH OF HONSHU, JAPAN
15	00	47	39.5*	3.548	S	177.737	E	33	N	4.8	1.0	20	GILBERT ISLANDS REGION
15	00	59	24.2	6.582	S	130.015	E	146		5.1	1.2	50	BANDA SEA
15	02	21	40.6*	24.341	N	122.305	E	10	G		1.4	9	TAIWAN REGION
15	03	37	23.8*	59.570	N	151.338	W	93			0.7	13	KENAI PENINSULA, ALASKA
15	03	44	16.7*	1.463	N	96.955	E	33	N	3.9	1.0	15	OFF W COAST OF NORTHERN SUMATERA
15	04	36	47.7*	6.059	S	147.020	E	110		4.4	1.3	7	EAST PAPUA NEW GUINEA REGION
15	08	00	34.3*	24.431	N	121.639	E	10	G		0.6	8	TAIWAN
15	08	01	36.8*	40.465	N	29.113	E	10	G		0.9	7	TURKEY
15	08	48	48.4?	32.48	S	69.67	W	142			0.1	6	MENDOZA PROVINCE, ARGENTINA
15	10	11	32.5	62.938	N	151.302	W	153			0.3	17	CENTRAL ALASKA
15	10	56	20.7	36.617	N	140.178	E	123		4.4	1.1	22	NEAR EAST COAST OF HONSHU, JAPAN. Felt (II JMA) at Mito and (I JMA) at Utsunomiya and Ajiro. Also felt at Onahama.
15	13	38	13.2*	30.866	S	69.309	W	123			0.5	6	CHILE-ARGENTINA BORDER REGION
15	13	43	04.0	36.957	N	71.356	E	64		4.1	1.0	13	AFGHANISTAN-USSR BORDER REGION
15	20	22	55.2	14.493	S	70.785	W	128		6.0	1.0	343	PERU. mb 6.3 (BRK). Felt (V) in the Cuzco-Arequipa area. [FS].

FAULT PLANE SOLUTION: P-WAVES. NP1: STRIKE=270; DIP=50; SLIP= 205. NP2: STRIKE=163; DIP=71; SLIP= 317
PRINCIPAL AXES: (T) PLG=13; AZM=221. (P) PLG=43; AZM=119
Poorly controlled normal fault type mechanism with a fair amount of strike-slip component. NP to be designated as the fault plane not determined.

MOMENT TENSOR SOLUTION. NO OF STA 8. SCALE 10**25 D-CM
PRINCIPAL AXES: (T) VAL= 2.80; PLG=13; AZM=214; (N) VAL= 0.02; PLG=39; AZM=113; (P) VAL= -2.82; PLG=48; AZM=319
BEST DOUBLE COUPLE: Mo= 2.8*10**25; NP1: STRIKE=343; DIP=47; SLIP= -30; NP2: STRIKE= 94; DIP=69; SLIP=-133
CMTS: (HRV) B091582A DATA: GDSN ; L.P. BODY WAVES: 13S, 34C, T= 45;
CENTROID LOCATION OT 20:23: 6.9 0.3; LAT 14.65S 0.02; LON 70.49W 0.04; DEP 168.6 1.3; HALF-DURATION 4.8
MT: Scale 10**25 d-cm; MRR=-2.38 0.10; MTT= 1.24 0.13; MFF= 1.14 0.16; MRT=-0.02 0.08; MRF=-1.06 0.10; MTF=-2.45 0.10
PRINCIPAL AXES: (T) VAL= 3.73; PLG= 7; AZM= 46; (N) VAL= -0.89; PLG=26; AZM=139; (P) VAL= -2.84; PLG=63; AZM=302
BEST DOUBLE COUPLE: Mo= 3.3*10**25; NP1: STRIKE=109; DIP=44; SLIP=-128; NP2: STRIKE=337; DIP=57; SLIP= -59

15	21	57	37.7*	3.802	S	177.776	E	33	N	4.6	0.6	9	GILBERT ISLANDS REGION
15	22	09	52.8*	31.162	S	67.893	W	10	G		1.7	10	SAN JUAN PROVINCE, ARGENTINA
15	22	16	01.6*	21.181	S	168.988	E	33	N	4.2	1.2	19	LOYALTY ISLANDS
15	22	23	28.6	39.363	N	25.951	E	10	G	4.0	1.0	25	AEGEAN SEA. ML 3.8 (ATH).
15	22	34	05.1	21.576	S	169.211	E	31		5.3 5.5	1.2	92	LOYALTY ISLANDS REGION. Ms 5.6 (BRK).

CMTS: (HRV) B091582B DATA: GDSN ; L.P. BODY WAVES: 9S, 22C, T= 45;
CENTROID LOCATION OT 22:34:13.1 0.7; LAT 21.36S 0.10; LON 168.63E 0.10; DEP 10.0 FIX; HALF-DURATION 2.0
MT: Scale 10**24 d-cm; MRR= 2.14 0.22; MTT= 1.01 0.35; MFF=-3.15 0.24; MRT= 0.02 0.56; MRF=-1.43 1.15; MTF= 0.58 0.18
PRINCIPAL AXES: (T) VAL= 2.51; PLG=75; AZM=108; (N) VAL= 1.07; PLG= 6; AZM=354; (P) VAL= -3.59; PLG=14; AZM=263
BEST DOUBLE COUPLE: Mo= 3.1*10**24; NP1: STRIKE=344; DIP=32; SLIP= 78; NP2: STRIKE=178; DIP=59; SLIP= 97

15	22	36	36.1*	31.460	S	67.602	W	10	G		1.5	12	SAN JUAN PROVINCE, ARGENTINA
15	23	31	54.4*	12.166	N	143.605	E	33	N	4.7	1.1	13	SOUTH OF MARIANA ISLANDS
16	00	18	49.4*	10.558	N	62.789	W	102		4.4	1.0	16	NEAR COAST OF VENEZUELA
16	02	20	37.2	30.165	N	139.060	E	368		5.1	0.8	142	SOUTH OF HONSHU, JAPAN
16	03	07	58.7*	3.489	S	177.617	E	33	N	4.8	1.0	15	GILBERT ISLANDS REGION
16	04	42	36.7*	32.500	S	72.360	W	33	N		1.5	9	OFF COAST OF CENTRAL CHILE
16	06	36	03.9*	51.570	N	7.551	E	10	G		0.7	7	GERMANY. ML 2.8 (BNS).
16	06	42	35.9	10.152	N	124.992	E	24		4.6 4.1	1.5	14	LEYTE, PHILIPPINE ISLANDS
16	06	46	07.9?	52.95	N	167.03	W	33	N	5.0 4.5	0.7	11	FOX ISLANDS, ALEUTIAN ISLANDS
16	07	30	57.2*	38.892	N	20.954	E	10	G		0.7	6	GREECE. ML 3.6 (ATH).
16	08	23	12.4	15.707	S	172.745	W	37	D	5.6 5.5	1.3	126	SAMOA ISLANDS REGION. Ms 5.8 (BRK), 5.3 (PAS). Felt (II) at Apia.

CMTS: (HRV) B091682A DATA: GDSN ; L.P. BODY WAVES: 10S, 25C, T= 45;
CENTROID LOCATION OT 8:23:19.2 0.6; LAT 15.19S 0.09; LON 172.98W 0.07; DEP 10.9 7.6; HALF-DURATION 2.2
MT: Scale 10**24 d-cm; MRR=-0.19 0.16; MTT=-0.46 0.25; MFF= 0.65 0.23; MRT=-0.54 0.59; MRF= 0.07 0.53; MTF=-3.27 0.20
PRINCIPAL AXES: (T) VAL= 3.45; PLG= 6; AZM=229; (N) VAL= -0.19; PLG=81; AZM= 98; (P) VAL= -3.26; PLG= 7; AZM=320
BEST DOUBLE COUPLE: Mo= 3.4*10**24; NP1: STRIKE= 5; DIP=81; SLIP= 0; NP2: STRIKE= 95; DIP=90; SLIP=-171

16	09	21	12.2	5.186	S	151.896	E	71		5.1	1.0	20	NEW BRITAIN REGION
16	10	26	04.7*	40.647	N	123.818	W	5	G		0.8	8	NORTHERN CALIFORNIA. ML 3.2 (BRK). Felt (III) at Rio Dell.
16	11	41	01.0	3.330	S	177.600	E	33	N	5.3 4.7	0.8	94	GILBERT ISLANDS REGION
16	12	19	07.3	6.959	S	67.778	E	10	G	5.1 4.9	1.0	102	CARLSBERG RIDGE
16	12	27	38.5	7.303	S	127.062	E	308		5.0	1.2	22	BANDA SEA
16	13	28	38.5*	6.028	N	126.056	E	149		4.9	1.5	16	MINDANAO, PHILIPPINE ISLANDS
16	16	46	02.2	3.420	S	177.601	E	33	N	4.9 4.4	0.9	49	GILBERT ISLANDS REGION
16	17	00	34.9?	14.718	N	60.878	W	33	N		1.2	5	WINDWARD ISLANDS
16	19	19	53.5&	37.483	N	118.817	W	6	G			19	CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. ML 3.0 (PAS), 3.3 (BRK).
16	19	58	01.7*	38.060	N	20.182	E	10	G	3.8	0.9	16	GREECE. ML 3.7 (ATH).
16	20	03	12.1*	20.944	S	68.345	W	106		4.3	0.2	6	CHILE-BOLIVIA BORDER REGION
16	21	07	41.3	6.317	S	147.489	E	108		5.0	0.9	27	EAST PAPUA NEW GUINEA REGION
16	21	28	34.2*	49.451	S	164.489	E	33	N	4.5	1.1	11	AUCKLAND ISLANDS REGION
17	02	57	46.6	11.126	S	162.240	E	57		5.3	1.0	106	SOLOMON ISLANDS
17	03	09	26.2*	15.635	N	147.794	E	41		4.8	0.8	16	MARIANA ISLANDS REGION
17	03	17	39.6	11.217	S	162.535	E	33	N	4.4	1.4	16	SOLOMON ISLANDS
17	04	15	21.9	17.691	S	172.697	W	31	D	5.2 5.4	1.1	110	TONGA ISLANDS REGION
17	05	24	04.6?	1.57	N	90.85	W	10	G	4.4	0.4	6	GALAPAGOS ISLANDS REGION
17	05	56	27.2	1.763	N	90.676	W	10	G	5.3 4.7	1.1	43	GALAPAGOS ISLANDS REGION
17	06	03	05.6*	37.977	N	27.374	E	33	N		1.2	6	TURKEY
17	06	32	09.2	1.675	N	90.856	W	10	G	5.1 4.7	1.2	31	GALAPAGOS ISLANDS REGION
17	06	43	21.8*	1.559	N	90.957	W	10	G	4.8	1.4	20	GALAPAGOS ISLANDS REGION
17	07	46	54.2	28.072	S	66.858	W	182		3.8	1.2	16	CATAMARCA PROVINCE, ARGENTINA
17	09	40	41.2*	3.385	S	177.382	E	33	N	4.8	1.2	18	GILBERT ISLANDS REGION

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17   10 57 50.36 33.953 N  118.317 W   14 G                      11  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.3 (PAS). Felt at
                                                                     Burbank, Long Beach, Los Angeles and Pasadena.
17   11 08 31.5* 54.573 S  136.803 W   10 G  5.4 5.0   0.7   26  SOUTH PACIFIC CORDILLERA
17   12 36 32.2   1.475 N   91.005 W   10 G  5.0 4.8   1.3   28  GALAPAGOS ISLANDS REGION
17   13 28 24.8  23.469 S  179.852 W  546 D  5.9       0.9  273  SOUTH OF FIJI ISLANDS. mb 6.2 (BRK), 6.2 (PAS).
       FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=164;  DIP=82;  SLIP= 90.   NP2:  STRIKE=344;  DIP= 8;  SLIP=  90
       PRINCIPAL AXES:   (T)  PLG=53;  AZM= 74.   (P)  PLG=37;  AZM=254
                                                                     Moderately well controlled reverse fault type
                                                                     mechanism. NP to be designated as the fault plane not
                                                                     determined.
     MOMENT TENSOR SOLUTION.   NO OF STA   3.   SCALE 10**25 D-CM
     PRINCIPAL AXES:  (T) VAL=  1.80; PLG=48; AZM= 19;  (N) VAL=  0.65; PLG=40; AZM=176;  (P) VAL= -2.45;  PLG=11; AZM=276
     BEST DOUBLE COUPLE:      Mo= 2.1*10**25;   NP1:  STRIKE= 44; DIP=48; SLIP= 149;   NP2:  STRIKE=156; DIP=67; SLIP=  48
     CMTS:  (HRV) B091782A   DATA:  GDSN              ;  L.P. BODY WAVES:  11S, 29C, T= 45;
     CENTROID LOCATION   OT 13:28:33.3 0.2;  LAT 23.15S 0.03;  LON 179.83E 0.03;  DEP 561.5 1.5;          HALF-DURATION  4.0
     MT: Scale 10**25 d-cm; MRR= 0.41 0.03; MTT=-0.14 0.04; MFF=-0.47 0.04; MRT=-0.04 0.04; MRF=-1.60 0.04; MTF=-0.36 0.04
     PRINCIPAL AXES:  (T) VAL=  1.78; PLG=53; AZM= 81;  (N) VAL= -0.09; PLG=11; AZM=186;  (P) VAL= -1.69;  PLG=34; AZM=284
     BEST DOUBLE COUPLE:      Mo= 1.7*10**25;   NP1:  STRIKE= 54; DIP=15; SLIP= 139;   NP2:  STRIKE=185; DIP=80; SLIP=  79
17   15 38 16.7  11.860 S  117.187 E   33 N  4.9       1.5   23  SOUTH OF SUMBAWA ISLAND
17   16 14 46.5*  6.079 S  112.857 E  612    4.5       1.4   18  JAVA
17   16 54 05.2  24.552 N  123.050 E   73    4.5       1.1   33  SOUTHWESTERN RYUKYU ISLANDS. Felt (II JMA) on
                                                                     Ishigakijima.
17   20 21 50.2* 23.146 S  179.863 E  471    4.9       0.8   44  SOUTH OF FIJI ISLANDS
18   00 20 38.2* 20.051 S  172.985 W   38 D  5.1 4.9   1.5   32  TONGA ISLANDS REGION
18   01 20 02.7*  3.532 S  130.150 E   33 N  4.0       1.0   10  CERAM
18   02 07 44.8* 31.770 S   69.865 W   33 N            0.9    6  SAN JUAN PROVINCE, ARGENTINA
18   04 33 22.9   5.311 S  145.998 E  145    4.3       1.4    9  EAST PAPUA NEW GUINEA REGION
18   05 46 58.2* 31.209 N  140.576 E   66    4.6       0.5    7  SOUTH OF HONSHU, JAPAN
18   06 15 56.9* 21.144 S  179.588 W  623    4.7       1.0   13  FIJI ISLANDS REGION
18   06 24 13.4* 60.630 N  151.867 W   92                0.4   10  KENAI PENINSULA, ALASKA
18   07 31 33.5? 43.57  N  127.18  W   10 G  4.0       1.1   13  OFF COAST OF OREGON
18   14 25 04.1* 3.485 S  177.728 E   33 N  5.1         0.9   50  GILBERT ISLANDS REGION
18   15 00 40.6   7.633 S  127.443 E  158    5.3       1.1  195  BANDA SEA
     CMTS:  (HRV) B091882A   DATA:  GDSN              ;  L.P. BODY WAVES:  14S, 36C, T= 45;
     CENTROID LOCATION   OT 15: 0:43.3 0.2;  LAT  7.65S 0.02;  LON 127.52E 0.03;  DEP 149.5 1.3;          HALF-DURATION  3.0
     MT: Scale 10**24 d-cm; MRR= 5.43 0.18; MTT=-3.93 0.21; MFF=-1.50 0.21; MRT= 4.65 0.19; MRF= 0.32 0.19; MTF= 4.31 0.23
     PRINCIPAL AXES:  (T) VAL=  7.80; PLG=61; AZM=332;  (N) VAL=  0.37; PLG=24; AZM=115;  (P) VAL= -8.17;  PLG=15; AZM=212
     BEST DOUBLE COUPLE:      Mo= 8.0*10**24;   NP1:  STRIKE=333; DIP=36; SLIP= 134;   NP2:  STRIKE=103; DIP=65; SLIP=  63
18   16 11 44.9? 39.90  N  104.91  W    5 G                0.4    5  COLORADO. ML 2.8 (NEIS), mbLg 2.8 (TUL). Felt (III) at
                                                                     Thornton. Also felt at Northglenn and Commerce City.
18   16 38 36.4  29.595 S   72.093 W   33 N               1.2   13  OFF COAST OF CENTRAL CHILE
18   16 48 41.6? 15.06  N   95.09  W   33 N               1.0    9  NEAR COAST OF OAXACA, MEXICO
18   18 19 37.9  36.200 N  141.384 E   48    4.8         1.0   51  NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at
                                                                     Choshi and Mito.
18   20 41 00.8* 53.258 N  167.098 W   33 N  4.7         0.7   30  FOX ISLANDS, ALEUTIAN ISLANDS. ML 4.1 (PMR).
18   21 20 11.5  26.916 S  176.373 W   50 G  5.4 5.6     1.1  111  SOUTH OF FIJI ISLANDS. Ms 5.5 (BRK).
18   21 37 42.5  27.276 S  176.197 W   33 N  5.1         1.4   30  KERMADEC ISLANDS REGION
18   21 59 07.2* 44.440 N   11.511 E   10 G               0.6   18  NORTHERN ITALY. ML 2.6 (TRI).
18   21 59 40.5   7.516 N   36.566 W   10 G  4.6         0.6   38  CENTRAL MID-ATLANTIC RIDGE
19   00 30 41.4* 62.744 N  150.881 W  127                 0.3    8  CENTRAL ALASKA
19   01 32 08.8* 43.099 N   19.029 E   10 G               0.9    9  YUGOSLAVIA. ML 4.0 (TRI).
19   02 03 21.7* 29.964 S   70.672 W   33 N               1.1    7  CENTRAL CHILE
19   02 28 22.8  24.284 S   66.868 W  195    4.7         1.0   18  SALTA PROVINCE, ARGENTINA
19   02 58 36.66 37.517 N  118.767 W    6 G                     17  CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. ML 3.1 (PAS),
                                                                     3.1 (BRK).
19   08 02 01.5*  6.600 S  150.476 E   33 N  4.3         0.9    7  NEW BRITAIN REGION
19   13 46 00.76 35.767 N  117.733 W    5 G                     6  CENTRAL CALIFORNIA. <PAS-P>. ML 2.8 (PAS). Felt at
                                                                     Ridgecrest.
19   16 55 20.76 37.700 N  118.850 W    2 G                    15  CALIFORNIA-NEVADA BORDER REGION. ML 3.0 (PAS), 3.2
                                                                     (BRK).
19   18 30 22.8* 40.030 N   25.451 E   10 G               0.9    6  AEGEAN SEA
19   21 35 12.5* 31.718 S   67.176 W   10 G               1.2    6  SAN JUAN PROVINCE, ARGENTINA
20   00 44 25.9* 46.310 N   10.909 E   10 G               0.9    6  NORTHERN ITALY
20   01 13 53.6* 40.619 N   21.348 E   10 G               0.5   10  GREECE
20   01 22 11.4  34.355 N   26.029 E   37    4.9 5.0     1.1  148  CRETE. ML 4.6 (ATH).
20   03 23 30.1* 34.308 N   25.943 E   33 N  4.1         0.3    5  CRETE
20   03 55 17.26 33.950 N  107.056 W   11 G  5.0                3  NEW MEXICO. <GS>. ML 2.9 (GS), mbLg 3.5 (TUL). Felt
                                                                     (IV) at Socorro. Also felt at Magdalena and San
                                                                     Antonio.
20   06 32 38.4* 19.195 N   96.096 W   33 N               1.2   11  VERA CRUZ, MEXICO
20   06 39 02.6* 16.375 N   97.695 W   33 N               1.2    9  OAXACA, MEXICO
20   07 42 29.8* 31.617 S   69.123 W   33 N               0.8    6  SAN JUAN PROVINCE, ARGENTINA
20   07 54 15.6   7.393 S  129.080 E  132    4.5         1.3   19  BANDA SEA
20   08 23 18.2  26.631 S   70.553 W   46    5.1         1.3   35  NEAR COAST OF NORTHERN CHILE
20   08 55 01.1% 41.248 N   29.598 E   10 G               1.3    5  TURKEY
20   09 29 46.8? 52.69  N  166.92  W   33 N  4.8         0.7   10  FOX ISLANDS, ALEUTIAN ISLANDS
20   09 36 29.5& 32.867 N  119.983 W   16 G  3.8                11  OFF COAST OF CALIFORNIA. <PAS-P>. ML 3.8 (PAS).
20   11 02 37.8  27.973 N  127.890 E   42    4.5         1.1   14  RYUKYU ISLANDS
20   12 57 45.3  26.930 S  175.963 W   33 N  5.4 6.1     1.5   77  SOUTH OF TONGA ISLANDS. Ms 5.9 (BRK).
     CMTS:  (HRV) B092082A   DATA:  GDSN              ;  L.P. BODY WAVES:  14S, 39C, T= 45;
     CENTROID LOCATION   OT 12:57:55.8 0.3;  LAT 26.66S 0.03;  LON 175.75W 0.04;  DEP  10.1 FIX;          HALF-DURATION  3.0
     MT: Scale 10**24 d-cm; MRR= 8.73 0.24; MTT= 0.78 0.32; MFF=-9.51 0.31; MRT=-1.58 0.73; MRF= 5.67 1.20; MTF= 0.25 0.26
     PRINCIPAL AXES:  (T) VAL= 10.56; PLG=72; AZM=241;  (N) VAL=  0.61; PLG= 7; AZM=355;  (P) VAL=-11.17;  PLG=16; AZM= 87
     BEST DOUBLE COUPLE:      Mo= 1.1*10**25;   NP1:  STRIKE=187; DIP=30; SLIP= 105;   NP2:  STRIKE=351; DIP=62; SLIP=  82
20   13 19 52.3* 27.011 S  175.807 W   43 D  5.1         1.4   12  KERMADEC ISLANDS REGION
20   13 33 15.6* 26.568 S  175.770 W   33 N               0.6    7  SOUTH OF TONGA ISLANDS
20   13 35 03.3* 30.122 N  131.416 E   33 N  4.5         1.1    9  KYUSHU, JAPAN
20   13 48 32.4  26.886 S  175.873 W   33 N  5.2 5.9     1.1   73  SOUTH OF TONGA ISLANDS
20   13 56 08.5  54.355 S  143.865 E   10 G  5.7 5.8     1.3   95  WEST OF MACQUARIE ISLAND
20   16 26 44.2  11.221 N   60.847 W    6    5.2 4.0     0.9   96  WINDWARD ISLANDS. Felt (VI) on Tobago, (III) on
                                                                     Trinidad.
20   17 05 02.3  26.976 S  176.197 W   33 N  5.3 5.8     1.1   81  SOUTH OF FIJI ISLANDS
20   17 14 28.2  22.918 N   95.970 E   33 N  4.8         1.5   27  BURMA
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20   17 26 42.6   54.442 S  143.515 E   10 G  5.1 5.5    1.3   19  WEST OF MACQUARIE ISLAND
20   19 30 26.9   26.995 S  176.144 W   33 N  4.7         2.0   21  SOUTH OF FIJI ISLANDS
20   19 32 43.6*  27.339 S  176.051 W   33 N  5.1 5.3     1.1   21  KERMADEC ISLANDS REGION
20   20 04 15.6*  38.887 N   26.184 E   10 G  3.8         1.3   13  AEGEAN SEA. ML 3.1 (ATH).
20   20 26 57.1*  31.659 S   69.690 W  141                0.5   11  SAN JUAN PROVINCE, ARGENTINA
20   20 52 43.2*   6.789 S  147.359 E   60     3.8        1.4    7  EAST PAPUA NEW GUINEA REGION
21   00 46 30.1    9.645 S  152.044 E   23     5.6 5.9    1.4   75  DENTRECASTEAUX ISLANDS REGION
     CMTS:  (HRV) B0921828A    DATA:  GDSN                    ;  L.P. BODY WAVES:  158, 35C, T= 45;
     CENTROID LOCATION   OT  0:46:28.4 0.5;  LAT  9.16S 0.06;  LON 151.94E 0.07;  DEP  11.0 5.1;        HALF-DURATION  2.2
     MT: Scale 10**24 d-cm; MRR=-0.65 0.17; MTT= 3.13 0.21; MFF=-2.48 0.26; MRT=-2.76 1.87; MRF= 2.85 1.89; MTF=-3.40 0.20
     PRINCIPAL AXES:  (T) VAL=  6.66; PLG=27; AZM=209;  (N) VAL= -1.86; PLG=50; AZM=337;  (P) VAL= -4.80;  PLG=27; AZM=104
     BEST DOUBLE COUPLE:      Mo= 5.7*10**24;    NP1:  STRIKE=246; DIP=50; SLIP= 180;   NP2:  STRIKE=337; DIP=90; SLIP=  40
21   01 28 18.1    9.567 S  152.243 E   21     5.8 6.1    1.2  148  DENTRECASTEAUX ISLANDS REGION. Ms 6.1 (PAS).
     CMTS:  (HRV) B0921828    DATA:  GDSN                    ;  L.P. BODY WAVES:  188, 46C, T= 45;
     CENTROID LOCATION   OT  1:28:21.6 0.3;  LAT  9.42S 0.04;  LON 152.26E 0.05;  DEP  20.5 3.9;        HALF-DURATION  4.0
     MT: Scale 10**25 d-cm; MRR=-0.60 0.07; MTT= 1.81 0.08; MFF=-1.20 0.10; MRT=-0.85 0.26; MRF= 0.70 0.20; MTF=-1.17 0.07
     PRINCIPAL AXES:  (T) VAL=  2.55; PLG=18; AZM=201;  (N) VAL= -0.78; PLG=60; AZM=325;  (P) VAL= -1.77;  PLG=23; AZM=103
     BEST DOUBLE COUPLE:      Mo= 2.2*10**25;    NP1:  STRIKE=243; DIP=60; SLIP=-176;   NP2:  STRIKE=151; DIP=87; SLIP= -30
21   02 02 31.8    9.372 S  152.328 E   37     5.4        1.1   91  DENTRECASTEAUX ISLANDS REGION
21   02 57 00.8   49.854 N   78.216 E    0 G   5.2        0.8  126  EASTERN KAZAKH SSR
21   02 59 56.3*  32.740 S   71.577 W   33 N               1.2   10  NEAR COAST OF CENTRAL CHILE
21   05 39 21.6   42.088 N   43.645 E   33 N  4.4 3.2     0.7   22  WESTERN CAUCASUS
21   06 41 46.9*  15.692 N  147.706 E   33 N  4.6         0.9   12  MARIANA ISLANDS REGION
21   06 44 08.6*  34.230 N   25.993 E   33 N  4.3         1.0   22  CRETE
21   07 01 29.9*  36.563 N  140.734 E   33 N               0.6    7  NEAR EAST COAST OF HONSHU, JAPAN. Felt (I JMA) at Mito.
21   07 14 07.0    5.508 S  146.254 E   78     4.6        1.2   27  EAST PAPUA NEW GUINEA REGION
21   09 54 19.8*  52.797 N  166.980 W   33 N  4.5         1.0   19  FOX ISLANDS, ALEUTIAN ISLANDS
21   10 03 04.5I  15.810 N   60.602 W   33 N               0.2    6  LEEWARD ISLANDS
21   12 23 07.8   24.759 N  122.339 E  132     4.3        0.9   22  TAIWAN REGION
21   12 38 27.3   25.147 N   91.397 E   33 N  4.6         1.5   26  INDIA-BANGLADESH BORDER REGION
21   13 27 08.3*  15.162 N   97.727 W   33 N  4.1         1.2   15  NEAR COAST OF OAXACA, MEXICO
21   17 53 59.7*   4.574 S  126.543 E   33 N  4.7         1.3   16  BANDA SEA
21   18 17 12.46  34.433 N  119.783 W    9 G                     9  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.2 (PAS). Felt (IV)
                                                                    at Santa Barbara. Felt from Santa Barbara to San Luis
                                                                    Obispo.
21   19 09 03.6*  41.730 N   21.777 E   10 G               1.4    6  YUGOSLAVIA
21   19 10 23.1   31.544 S   68.910 W  115                0.7   13  SAN JUAN PROVINCE, ARGENTINA
21   19 51 13.8   34.356 N   26.050 E   32     5.2 5.0    1.1  170  CRETE
21   20 19 35.37  17.54  S  178.18  W  337     4.8        1.3   50  FIJI ISLANDS REGION
21   22 01 08.4   35.981 N  141.744 E   33 N  4.5         1.1   17  NEAR EAST COAST OF HONSHU, JAPAN
22   04 12 31.67   3.68  S  177.76  E   33 N  4.7         1.3   18  GILBERT ISLANDS REGION
22   05 14 11.0*  32.302 S   71.644 W   48                0.1    6  NEAR COAST OF CENTRAL CHILE
22   06 59 27.2   32.102 S   70.121 W  102                0.7   12  CHILE-ARGENTINA BORDER REGION
22   07 02 24.1*   5.873 N  126.400 E   37     4.3        1.2   13  MINDANAO, PHILIPPINE ISLANDS
22   07 26 28.1*  18.269 N  100.455 W   33 N               0.7   10  GUERRERO, MEXICO
22   07 53 39.1*   1.759 S   77.356 W  186     4.5        0.7   25  ECUADOR
22   08 17 27.2   33.689 N  141.270 E   29     4.6        1.0   23  OFF EAST COAST OF HONSHU, JAPAN
22   10 39 09.3*  41.978 N  143.108 E   10 G  4.8 4.6     1.6   21  HOKKAIDO, JAPAN  REGION. Felt (IV JMA) at Urakawa, (III
                                                                    JMA) at Shizunai, (I JMA) at Obihiro.
22   11 41 50.2*  13.235 S  167.041 E  211     4.6        1.0   15  VANUATU ISLANDS
22   12 00 08.4*  32.708 S   70.154 W   33 N               1.1    9  CHILE-ARGENTINA BORDER REGION
22   12 01 16.5   36.365 N   71.373 E   86     4.9        1.1   53  AFGHANISTAN-USSR BORDER REGION
22   14 07 03.07  40.23  N  121.47  W    5 G               0.9    5  NORTHERN CALIFORNIA. ML 3.0 (BRK).
22   14 45 39.5*  31.089 S   66.463 W   33 N               1.0    5  LA RIOJA PROVINCE, ARGENTINA
22   15 30 02.7    8.836 N   83.131 W   41     4.9        0.9   68  COSTA RICA. Felt (III) at San Jose.
22   15 35 44.8    6.801 N   73.074 W  171     4.3        0.7   18  NORTHERN COLOMBIA
22   15 45 [illegible].5* 19.612 S  168.758 E   33 N  4.7  1.3   19  VANUATU ISLANDS
22   18 [illegible]53.1* 36.281 N    1.949 E   10 G        1.1   13  ALGERIA
22   20 47 38.3   26.020 N  128.471 E   33 N  4.5         1.0   23  RYUKYU ISLANDS
22   20 56 56.6*  36.794 N    7.407 W   33 N               1.2   15  STRAIT OF GIBRALTAR
22   21 25 51.5*  20.933 S  176.103 W   33 N  5.2         1.2   35  SOUTH OF FIJI ISLANDS
22   21 41 47.6*  38.596 N   75.874 E   33 N  4.7         1.1   15  SOUTHERN SINKIANG PROV., CHINA
22   22 30 27.2I  15.630 N   60.389 W   19                0.2    9  LEEWARD ISLANDS
23   02 37 13.77   0.31  N  141.29  E   33 N  4.0         0.4    5  PAPUA NEW GUINEA REGION
23   02 40 06.0*  25.786 S  176.582 W   33 N  4.6         1.3   10  SOUTH OF FIJI ISLANDS
23   03 28 00.46  37.477 N  118.850 W   10 G                    16  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 4.0 (BRK),
                                                                    4.0 (PAS). Felt in the Mammoth Lakes, California area.
23   03 31 43.6   37.470 N  118.797 W    5 G               0.9   14  CALIFORNIA-NEVADA BORDER REGION. ML 3.2 (BRK), 3.1
                                                                    (PAS).
23   04 17 16.2*  17.818 N   62.509 W   33 N               1.1   11  LEEWARD ISLANDS
23   04 20 06.4   21.700 N  143.024 E  318     4.9        0.8   73  MARIANA ISLANDS REGION
23   05 10 33.4*   6.817 N   82.895 W   10 G  4.4 4.3     1.4   18  SOUTH OF PANAMA
23   05 30 30.0   17.042 N   98.993 W   33 N  4.5         1.4   50  GUERRERO, MEXICO
23   16 00 00.06  37.212 N  116.207 W    0 G  4.9              92  SOUTHERN NEVADA. <DOE>. ML 4.8 (BRK). Two events
                                                                    simultaneously. 37° 12' 43.28" N., 116° 12' 24.36" W.,
                                                                    Surface Elev. 2260 m., Working Elev. 1852 m., Shot Time
                                                                    160000.091, "HURON LANDING" and "DIAMOND ACE", Nevada
                                                                    Test Site (Dept. of Energy).
23   16 44 21.8*  16.549 N   96.391 W   33 N               1.1   13  OAXACA, MEXICO
23   17 00 00.06  37.175 N  116.088 W    0 G  4.9              74  SOUTHERN NEVADA. <DOE>. ML 4.8 (BRK). 37° 10' 29.10"
                                                                    N., 116° 05' 16.05' 16.06" W., Surface Elev. 1374 m.,
                                                                    Depth of Burial 451 m., Shot Time 170000.082, "FRISCO",
                                                                    Nevada Test Site (Dept. of Energy).
23   18 30 40.5*  31.539 S   67.752 W   10 G               0.8    8  SAN JUAN PROVINCE, ARGENTINA
23   20 42 50.96  34.867 N  120.383 W    3 G                   17  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.9 (PAS), 3.5 (BRK).
                                                                    Felt (V) at Santa Maria, (IV) at Atascadero and Goleta.
                                                                    Also felt at Casmalia, Guadalupe, Los Alamos, Ventura
                                                                    and Vandenberg Air Force Base.
23   23 19 41.0*  37.151 N   71.778 E  103     4.3        0.7    9  AFGHANISTAN-USSR BORDER REGION
23   23 30 16.9I  15.937 N   60.655 W   33 N               0.2    8  LEEWARD ISLANDS
23   23 59 38.4*  26.784 S  176.116 W   33 N  4.9         1.4   12  SOUTH OF FIJI ISLANDS
24   00 05 57.8   35.941 N  139.524 E   61     4.1        1.2    9  NEAR S. COAST OF HONSHU, JAPAN
24   00 09 02.1   29.654 S  179.913 E  546     5.2        1.1   55  SOUTH OF FIJI ISLANDS
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24   01 21 25.3& 34.900 N  120.367 W    1 G                          3  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
24   02 34 55.1   40.119 N   21.398 E   10 G  3.4          1.1     15  GREECE. ML 4.1 ML (ATH).
24   02 43 49.1& 34.867 N  120.383 W   10 G                          6  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
24   07 37 38.8* 38.899 N   23.996 E   10 G                  0.6     15  GREECE. ML 3.8 (ATH).
24   07 40 24.3& 37.852 N  118.123 W    5 G  5.0 4.6                 79  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 5.4 (BRK),
                                                                         5.2 (PAS). Felt (V) in the Montgomery Pass and Fish
                                                                         Lake Valley areas of Nevada. Also felt (V) at Bishop,
                                                                         California and Basalt, Nevada. Felt in at least five
24   08 05 55.46 36.728 N  121.335 W    5 G  3.7                    12  California counties and parts of western Nevada.
                                                                         CENTRAL CALIFORNIA. <BRK>. ML 3.9 (BRK). Felt (IV) at
                                                                         Paicines and (III) at San Juan Bautista. Also felt at
                                                                         Hollister and Tres Pinos.
24   08 06 34.6& 33.028 S   70.513 W   33 N                  0.9      7  CHILE-ARGENTINA BORDER REGION
24   09 46 06.4? 32.08  S   66.85  W   33 N                  0.8      8  SAN LUIS PROVINCE, ARGENTINA
24   11 32 29.4* 31.421 S   67.811 W   10 G                  1.1      7  SAN JUAN PROVINCE, ARGENTINA
24   13 18 26.6? 4.93   S  152.32  E   69     3.7           1.2      6  NEW BRITAIN REGION
24   16 18 45.4  24.569 N  122.482 E   88     5.1           0.8     17  TAIWAN REGION
24   16 28 25.7& 53.322 N    5.661 W   10 G                  0.4      8  UNITED KINGDOM. ML 1.5 (DMU). Believed to be the first
                                                                         instrumentally located hypocenter in this area.
24   17 30 31.5  22.116 N  121.438 E   15     4.1 4.2       1.4     34  TAIWAN REGION
24   18 27 20.4* 35.061 N  138.945 E   33 N                  1.2      7  HONSHU, JAPAN
24   18 57 54.4  15.761 N  147.620 E   39     5.1 4.3       1.0     82  MARIANA ISLANDS REGION
24   19 47 13.5   0.196 N  120.679 E   82 D   5.6           1.2    145  MINAHASSA PENINSULA
   CMTS:  (HRV) B092482A   DATA:  GDSN              ;  L.P. BODY WAVES:  14S, 33C, T= 45;
   CENTROID LOCATION   OT 19:47:19.3 0.3;  LAT  0.25N 0.03;  LON 120.26E 0.04;  DEP  76.0 4.5;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 1.05 0.11; MTT= 0.23 0.16; MFF=-1.29 0.20; MRT=-2.62 0.12; MRF=-3.34 0.12; MTF=-0.44 0.19
   PRINCIPAL AXES:  (T) VAL=  4.38; PLG=52; AZM=136;  (N) VAL=  0.10; PLG= 8; AZM= 36;  (P) VAL= -4.48;  PLG=37; AZM=300
   BEST DOUBLE COUPLE:      Mo= 4.4*10**24;    NP1:  STRIKE=349; DIP=11; SLIP=  42;   NP2:  STRIKE=217; DIP=83; SLIP=  98
24   21 11 28.0   3.351 S  177.594 E   28 D   5.1           0.7     61  GILBERT ISLANDS REGION
24   21 16 37.8   8.962 S  118.792 E   33 N   4.7           1.4     30  SUMBAWA ISLAND REGION
24   21 57 42.4& 35.687 N   84.244 W   10 G                          5  TENNESSEE. <TEIC>. mbLg 3.0 (BLA), CL 3.2 (TEIC). Felt
                                                                         (V) at Alcoa, Knoxville and Mt. Vernon. Felt (IV) at
                                                                         Vonore, Greenback, Loudon, Tallassee, Tellico Plains,
                                                                         Ten Mile, Clarkrange, Friendsville and Madisonville.
24   22 19 00.4   7.443 S  128.171 E   33 N   4.9           1.4     26  Also felt (IV) at Fontana Dam, North Carolina.
24   22 19 16.9& 35.689 N   84.247 W   10 G                          6  BANDA SEA
                                                                         TENNESSEE. <TEIC>. mbLg 3.4 (BLA), CL 3.5 (TEIC). Felt
                                                                         (V) at Alcoa, (IV) at Maryville, Mt. Vernon,
                                                                         Sweetwater, Vonore, Loudon, Delano, Madisonville,
                                                                         Tellico Plains and Friendsville. Also felt (IV) at
24   22 34 49.4   5.945 N  126.570 E   65     5.0           1.3     79  Fontana Dam, North Carolina.
24   22 51 52.2   5.979 N  126.617 E   46     5.5 5.5       1.2    120  MINDANAO, PHILIPPINE ISLANDS
   CMTS:  (HRV) B092482B   DATA:  GDSN              ;  L.P. BODY WAVES:  11S, 30C, T= 45;
   CENTROID LOCATION   OT 22:51:58.5 0.4;  LAT  5.69N 0.05;  LON 126.57E 0.07;  DEP  10.1 FIX;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 2.54 0.21; MTT= 0.03 0.22; MFF=-2.57 0.29; MRT=-0.81 0.61; MRF= 8.09 0.69; MTF=-1.73 0.21
   PRINCIPAL AXES:  (T) VAL=  8.79; PLG=52; AZM=252;  (N) VAL= -0.19; PLG=12; AZM=359;  (P) VAL= -8.60;  PLG=35; AZM= 98
   BEST DOUBLE COUPLE:      Mo= 8.7*10**24;    NP1:  STRIKE=234; DIP=15; SLIP= 146;   NP2:  STRIKE=357; DIP=82; SLIP=  77
24   23 57 08.8* 37.284 N  142.225 E   33 N   4.2           1.4      7  OFF EAST COAST OF HONSHU, JAPAN
25   01 18 31.8* 6.815  N   73.162 W  170     4.5           0.5     12  NORTHERN COLOMBIA
25   03 11 42.3  4.355  S  102.167 E   61     5.0           1.1     56  SOUTHERN SUMATERA
25   04 20 04.8& 36.673 N  121.330 W    6 G                          11  CENTRAL CALIFORNIA. <BRK>. ML 3.9 (BRK).
25   06 11 20.9* 28.531 S   73.023 W   33 N                  1.1     10  OFF COAST OF CENTRAL CHILE
25   07 07 37.5* 3.348  S  177.436 E   28 D   4.8           1.0     27  GILBERT ISLANDS REGION
25   07 51 08.5* 6.566  S  131.092 E   71     4.9           1.5     10  TANIMBAR ISLANDS REGION
25   08 35 57.6& 45.868 N    6.280 E   10 G                  0.8     12  FRANCE. ML 3.0 (LDG).
25   08 48 43.6  15.744 N  147.608 E   55 D   5.3           0.9     99  MARIANA ISLANDS REGION
25   09 03 43.4  17.595 S  179.031 W  542     5.0           1.0    133  FIJI ISLANDS REGION
25   10 28 41.1* 17.339 N  100.685 W   33 N                  1.0      5  GUERRERO, MEXICO
25   10 50 51.6* 5.932  N  126.694 E   41     4.3           1.2     20  MINDANAO, PHILIPPINE ISLANDS
25   11 27 26.8& 32.233 S   71.533 W   33 N                  0.9      6  NEAR COAST OF CENTRAL CHILE
25   12 47 04.4  5.969  N  126.587 E   62     4.6           0.7     13  MINDANAO, PHILIPPINE ISLANDS
25   13 17 45.0* 23.476 S  179.360 E  528     4.0           1.3     19  SOUTH OF FIJI ISLANDS
25   14 01 33.2* 43.228 N   82.554 E   33 N   4.3           1.3     10  NORTHERN SINKIANG PROV., CHINA
25   16 04 01.1  11.343 S  166.300 E   42 D   5.5 5.3       1.1    146  SANTA CRUZ ISLANDS
   CMTS:  (HRV) B092582A   DATA:  GDSN              ;  L.P. BODY WAVES:  12S, 28C, T= 45;
   CENTROID LOCATION   OT 16: 4: 5.2 0.4;  LAT 11.61S 0.04;  LON 166.02E 0.04;  DEP  49.4 3.7;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 3.81 0.18; MTT= 0.31 0.34; MFF=-4.13 0.27; MRT=-0.82 0.33; MRF=-1.17 0.32; MTF= 0.35 0.22
   PRINCIPAL AXES:  (T) VAL=  4.18; PLG=75; AZM=146;  (N) VAL=  0.13; PLG=13; AZM=359;  (P) VAL= -4.31;  PLG= 8; AZM=267
   BEST DOUBLE COUPLE:      Mo= 4.2*10**24;    NP1:  STRIKE=342; DIP=39; SLIP=  69;   NP2:  STRIKE=188; DIP=54; SLIP= 106
25   17 59 57.'  64.313 N   91.834 E    0 G   5.1           0.8     98  CENTRAL SIBERIA
25   18 05 30.3* 23.952 N  122.270 E   10 G                  0.5      9  TAIWAN REGION
25   18 08 09.7   7.071 S  129.726 E  119 D   5.5           1.0    175  BANDA SEA
   CMTS:  (HRV) B092582B   DATA:  GDSN              ;  L.P. BODY WAVES:  8S, 20C, T= 45;
   CENTROID LOCATION   OT 18: 8: 5.0 0.8;  LAT  7.25S 0.09;  LON 130.04E 0.15;  DEP  91.7 7.3;          HALF-DURATION  1.3
   MT: Scale 10**23 d-cm; MRR= 4.38 0.50; MTT=-3.48 1.43; MFF=-0.89 1.55; MRT= 1.03 0.78; MRF= 3.84 0.70; MTF= 7.15 0.85
   PRINCIPAL AXES:  (T) VAL=  8.42; PLG=43; AZM=305;  (N) VAL=  1.24; PLG=46; AZM=139;  (P) VAL= -9.66;  PLG= 7; AZM= 42
   BEST DOUBLE COUPLE:      Mo= 9.0*10**23;    NP1:  STRIKE= 93; DIP=55; SLIP=  28;   NP2:  STRIKE=346; DIP=67; SLIP= 142
25   18 42 06.2& 36.653 N  121.345 W    6 G                          11  CENTRAL CALIFORNIA. <BRK>. ML 3.5 (BRK).
25   20 38 10.4& 33.283 N  118.300 W    1 G                          13  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.4 (PAS).
25   21 01 12.0& 36.658 N  121.337 W    6 G                          12  CENTRAL CALIFORNIA. <BRK>. ML 3.0 (BRK).
25   21 01 22.3& 36.658 N  121.337 W    6 G                          10  CENTRAL CALIFORNIA. <BRK>. ML 3.2 (BRK).
25   21 31 17.3& 36.663 N  121.340 W    7 G                          11  CENTRAL CALIFORNIA. <BRK>. ML 3.2 (BRK).
25   21 51 27.6* 6.384  S   30.381 E   10 G                  1.2      8  LAKE TANGANYIKA REGION
25   22 06 16.0* 37.382 N  135.033 E  374     4.2           0.7     17  SEA OF JAPAN
25   23 17 05.4& 35.210 N   92.230 W    4 G                          14  ARKANSAS. <TEIC>. mbLg 3.4 (TUL), CL 3.4 (TEIC). Felt
                                                                         in the Enola-Naylor area.
25   23 29 46.0  36.359 N  117.816 W    5 G                  0.9     13  CALIFORNIA-NEVADA BORDER REGION. ML 3.5 (BRK).
26   00 12 57.9* 23.861 N  122.427 E   33 N   3.9           0.4      7  TAIWAN REGION
26   00 29 22.8* 31.687 S   68.237 W   10 G                  1.3     10  SAN JUAN PROVINCE, ARGENTINA
26   01 02 46.0* 2.841  N   96.359 E   66     3.9           0.5      7  NORTHERN SUMATERA
26   01 09 28.5  50.053 N  158.798 E   44 D   5.5 4.5       1.2    182  KURIL ISLANDS REGION
   CMTS:  (HRV) B092682A   DATA:  GDSN              ;  L.P. BODY WAVES:  10S, 18C, T= 45;
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     CENTROID LOCATION   OT  1: 9:30.3 1.4;  LAT 50.04N FIX;   LON 158.89E  FIX;  DEP  10.1 FIX;          HALF-DURATION  1.5
     MT: Scale 10**24 d-cm; MRR=-0.77 0.14; MTT= 1.04 0.16; MFF=-0.27 0.17; MRT= 0.12 0.45; MRF= 0.29 0.37; MTF= 0.32 0.14
     PRINCIPAL AXES:  (T) VAL=  1.13; PLG= 6; AZM=346;  (N) VAL= -0.23; PLG=25; AZM=253;  (P) VAL= -0.90;  PLG=65; AZM= 88
     BEST DOUBLE COUPLE:       Mo= 1.0*10**24;    NP1:  STRIKE=101; DIP=45; SLIP= -54;   NP2:  STRIKE=235; DIP=55; SLIP=-121
26   01 45 17.1* 21.530 N  143.189 E  314      4.3          0.9   19  MARIANA ISLANDS REGION
26   03 20 23.2*  5.640 S  150.409 E  118      4.8          1.0   25  NEW BRITAIN REGION
26   03 38 30.0* 39.676 N   24.100 E   11                    0.5   14  AEGEAN SEA
26   04 02 06.6  42.699 S   82.260 W   10 G  5.2 4.8        1.3   47  WEST CHILE RISE
26   04 46 37.8  47.015 N  152.289 E  112 D  5.6           0.9  236  KURIL ISLANDS
     CMTS:  (HRV) B0926828    DATA:  GDSN                ;  L.P. BODY WAVES:  11S, 28C, T= 45;
     CENTROID LOCATION   OT  4:46:38.7 0.9;  LAT 47.12N 0.07;  LON 152.06E 0.14;  DEP  66.5 7.7;          HALF-DURATION  1.6
     MT: Scale 10**23 d-cm; MRR=-9.59 1.03; MTT= 2.20 1.24; MFF= 7.39 1.75; MRT= 9.12 1.34; MRF= 3.11 1.08; MTF= 4.35 1.40
     PRINCIPAL AXES:  (T) VAL= 12.59; PLG=20; AZM=310;  (N) VAL=  1.98; PLG=19; AZM= 47;  (P) VAL=-14.58;  PLG=62; AZM=176
     BEST DOUBLE COUPLE:       Mo= 1.4*10**24;    NP1:  STRIKE= 11; DIP=29; SLIP=-130;   NP2:  STRIKE=235; DIP=68; SLIP= -70
26   04 56 35.9* 32.697 S   70.348 W  100                    0.3   10  CHILE-ARGENTINA BORDER REGION
26   05 20 37.0& 34.917 N  120.717 W    5 G                              4  SOUTHERN CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
26   08 32 31.5   6.612 N  126.763 E  190      5.4          1.0  155  MINDANAO, PHILIPPINE ISLANDS
     CMTS:  (HRV) B0926828    DATA:  GDSN                ;  L.P. BODY WAVES:  10S, 22C, T= 45;
     CENTROID LOCATION   OT  8:32:32.7 0.6;  LAT  6.68N 0.06;  LON 126.40E 0.05;  DEP 181.5 2.1;          HALF-DURATION  1.6
     MT: Scale 10**24 d-cm; MRR= 1.02 0.07; MTT=-0.28 0.08; MFF=-0.73 0.09; MRT= 0.31 0.10; MRF=-0.55 0.10; MTF= 0.56 0.09
     PRINCIPAL AXES:  (T) VAL=  1.19; PLG=74; AZM= 66;  (N) VAL=  0.09; PLG= 2; AZM=327;  (P) VAL= -1.28;  PLG=15; AZM=237
     BEST DOUBLE COUPLE:       Mo= 1.2*10**24;    NP1:  STRIKE=323; DIP=30; SLIP= 85;   NP2:  STRIKE=149; DIP=60; SLIP= 93
26   09 46 44.1*  3.428 S  177.558 E   25 D  4.6           0.7   11  GILBERT ISLANDS REGION
26   10 09 23.9& 46.873 N  121.073 W    4 G                              7  WASHINGTON. <SEA>. ML 2.9 (NEIS). Felt in the Naches
                                                                           area.
26   11 08 32.9* 39.532 N   25.362 E   10 G                    0.8    6  AEGEAN SEA. ML 3.5 (ATH).
26   11 20 32.4* 29.717 N  100.503 E   33 N  4.6              1.5   24  SICHUAN PROVINCE, CHINA
26   11 26 37.0  12.102 N   92.928 E   33 N  4.8              0.7   39  ANDAMAN ISLANDS REGION
26   12 43 53.0% 33.311 S   71.214 W   33 N                    0.3    7  NEAR COAST OF CENTRAL CHILE
26   14 00 49.7   3.442 S  177.659 E   25 D  5.4 4.5         0.9  115  GILBERT ISLANDS REGION
26   14 33 12.9   3.086 S   75.695 W  136 D  4.7              1.1   32  NORTHERN PERU
26   16 21 31.7* 15.641 N  147.982 E   33 N  4.2              0.7    9  MARIANA ISLANDS REGION
26   18 49 57.1  63.834 N  148.845 W  133                     0.4    9  CENTRAL ALASKA
26   19 18 30.4* 61.510 N   27.189 W   10 G  4.4              1.0   22  ICELAND REGION
26   19 57 57.3? 59.44  N  156.01  W   87                     0.6    8  SOUTHERN ALASKA
26   23 44 35.5* 22.901 S   66.551 W  226                     1.1   11  JUJUY PROVINCE, ARGENTINA
27   02 37 32.5* 31.803 N  116.572 E   33 N                   1.5    8  EASTERN CHINA
27   02 59 46.8* 15.069 S   75.556 W   33 N                   1.3    7  NEAR COAST OF PERU
27   05 17 54.8* 3.676 S   177.694 E   33 N  4.6              1.2   11  GILBERT ISLANDS REGION
27   06 24 52.1  31.365 S   69.446 W  118                     1.0   12  SAN JUAN PROVINCE, ARGENTINA
27   07 25 19.6? 14.91  N  147.10  E   33 N  4.2              0.6    6  MARIANA ISLANDS REGION
27   08 55 34.0   1.299 N  126.304 E   62 D  5.6           1.2  190  MOLUCCA PASSAGE. Felt at Manado, Sulawesi.
     CMTS:  (HRV) B092782A    DATA:  GDSN                ;  L.P. BODY WAVES:  13S, 35C, T= 45;
     CENTROID LOCATION   OT  8:55:38.2 0.5;  LAT  1.37N 0.03;  LON 126.41E 0.05;  DEP  38.1 2.3;          HALF-DURATION  2.1
     MT: Scale 10**24 d-cm; MRR= 6.16 0.24; MTT=-0.22 0.33; MFF=-5.95 0.36; MRT=-1.13 0.42; MRF= 0.73 0.46; MTF=-1.16 0.27
     PRINCIPAL AXES:  (T) VAL=  6.42; PLG=79; AZM=202;  (N) VAL= -0.23; PLG=11; AZM= 10;  (P) VAL= -6.19;  PLG= 2; AZM=101
     BEST DOUBLE COUPLE:       Mo= 6.3*10**24;    NP1:  STRIKE=202; DIP=44; SLIP=-106;   NP2:  STRIKE=  0; DIP=48; SLIP=-75
27   09 44 50.7  63.146 N  150.491 W  125      3.7          0.5   17  CENTRAL ALASKA
27   09 56 37.8* 31.612 S   67.546 W   10 G                   1.3    9  SAN JUAN PROVINCE, ARGENTINA
27   10 22 32.3& 35.210 N   92.230 W    4 G                              9  ARKANSAS. <TEIC>. mbLg 3.1 (NEIS), CL 2.9 (TEIC). Felt
                                                                           in the Enola-Naylor area.
27   10 58 45.8? 13.56  N   95.15  W   33 N                    0.5    9  OFF COAST OF CHIAPAS, MEXICO
27   11 11 03.2* 11.670 N   92.644 E   33 N  4.7              1.5   22  ANDAMAN ISLANDS REGION
27   11 51 07.7* 14.646 S  173.264 W   26 D  4.9 5.0         1.3   25  SAMOA ISLANDS REGION
27   12 04 35.6% 46.451 N    3.502 E   10 G                    0.3    6  FRANCE. ML 2.1 (LDG).
27   12 37 38.4  39.213 N   73.544 E   33 N  4.8 4.0         1.4   42  TAJIK-SINKIANG BORDER REGION
27   13 36 34.9  11.063 N   62.092 W  127                     1.1   19  WINDWARD ISLANDS. Building damaged on Tobago.
27   16 16 30.3* 32.030 S   70.172 W  105                     0.5   13  CHILE-ARGENTINA BORDER REGION
27   19 17 00.0* 19.475 S  174.677 W   33 N  5.2              1.3   21  TONGA ISLANDS
27   20 18 08.0* 71.587 N    3.694 W   10 G  4.6              1.3    8  JAN MAYEN ISLAND REGION
27   21 37 11.2  10.027 N  126.232 E   58      5.0          1.1   29  PHILIPPINE ISLANDS REGION
27   22 47 15.5* 18.162 N  100.445 W   33 N                   0.8    6  GUERRERO, MEXICO
28   00 41 49.1  37.485 N  118.797 W    5 G                   0.7   13  CALIFORNIA-NEVADA BORDER REGION. ML 4.2 (BRK), 3.7
                                                                           (PAS). Felt in the Mammoth Lakes, California area.
28   02 13 30.6* 0.347 S  125.797 E   33 N  4.6              1.1    5  MOLUCCA SEA
28   03 30 59.9* 39.152 N   23.869 E   16                    0.9   11  AEGEAN SEA. ML 3.4 (ATH).
28   03 32 19.3  37.459 N  118.792 W    5 G                   0.9   13  CALIFORNIA-NEVADA BORDER REGION. ML 3.7 (BRK), 3.7
                                                                           (PAS).
28   03 37 25.2  37.469 N  118.801 W    5 G                   0.9   14  CALIFORNIA-NEVADA BORDER REGION. ML 3.8 (BRK), 3.8
                                                                           (PAS). Felt in the Mammoth Lakes, California area.
28   05 07 14.4*  3.339 S  177.604 E   32 D  4.9              1.1   24  GILBERT ISLANDS REGION
28   09 24 38.4* 38.713 N   25.298 E   10 G                   1.1   10  AEGEAN SEA. ML 3.4 (ATH).
28   10 43 51.4& 35.750 N  117.750 W    5 G                              9  CENTRAL CALIFORNIA. <PAS-P>. ML 3.5 (PAS). Felt at
                                                                           Ridgecrest.
28   11 46 30.1* 33.625 S   72.071 W   33 N                    0.5    8  OFF COAST OF CENTRAL CHILE
28   13 03 31.5  59.817 S   26.296 W   33 N  5.1              1.0   31  SOUTH SANDWICH ISLANDS REGION
28   13 33 15.7* 31.525 S   67.658 W   10 G                   1.5    6  SAN JUAN PROVINCE, ARGENTINA
28   13 38 25.7  37.558 N   20.255 E   36      4.7 5.0      1.2  115  IONIAN SEA. ML 5.2 (ATH).
28   13 58 36.1? 33.68  S   72.49  W   33 N                   0.6    5  OFF COAST OF CENTRAL CHILE
28   15 14 36.7  24.271 S  176.674 W   40 D  6.0 6.1         1.3  237  SOUTH OF FIJI ISLANDS. Ms 6.2 (BRK), 5.9 (PAS). [FS].
     FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE= 12;  DIP=70;  SLIP= 85.   NP2:  STRIKE=206;  DIP=21;  SLIP=103
     PRINCIPAL AXES:   (T)  PLG=65;  AZM=274.   (P)  PLG=25;  AZM=106
                                                                           Poorly controlled reverse fault type mechanism. NP2
                                                                           designated as the fault plane.
     MOMENT TENSOR SOLUTION.   NO OF STA  10.   SCALE 10**25 D-CM
     PRINCIPAL AXES:  (T) VAL=  4.34; PLG= 4; AZM=282;  (N) VAL=  0.27; PLG=85; AZM=138;  (P) VAL= -4.61;  PLG= 3; AZM= 12
     BEST DOUBLE COUPLE:       Mo= 4.5*10**25;    NP1:  STRIKE= 57; DIP=85; SLIP=  1;   NP2:  STRIKE=327; DIP=89; SLIP=175
     CMTS:  (HRV) C092882A    DATA:  GDSN                ;  L.P. BODY WAVES:  16S, 44C, T= 45;   MANTLE WAVES:  10S, 23C, T=135
     CENTROID LOCATION   OT 15:14:38.9 0.2;  LAT 24.35S 0.02;  LON 176.28W 0.03;  DEP  42.0 1.6;          HALF-DURATION  5.0
     MT: Scale 10**25 d-cm; MRR= 1.32 0.07; MTT=-4.54 0.09; MFF= 3.22 0.09; MRT=-0.69 0.13; MRF= 0.44 0.13; MTF= 1.90 0.07
     PRINCIPAL AXES:  (T) VAL=  3.70; PLG= 7; AZM=282;  (N) VAL=  1.38; PLG=80; AZM=148;  (P) VAL= -5.08;  PLG= 7; AZM= 13
     BEST DOUBLE COUPLE:       Mo= 4.4*10**25;    NP1:  STRIKE= 58; DIP=80; SLIP=  0;   NP2:  STRIKE=148; DIP=90; SLIP=-170
28   15 40 11.5% 44.609 N    6.997 E    9                    0.2   12  FRANCE. ML 3.1 (LDG).
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28   16 22 01.8* 34.503 N  140.018 E   33 N  4.0          0.8    7  NEAR EAST COAST OF HONSHU, JAPAN
28   17 35 05.0& 35.750 N  117.750 W    9 G                       5  CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
28   17 41 07.1* 31.302 S   69.383 W   10 G                0.8    6  SAN JUAN PROVINCE, ARGENTINA
28   18 10 29.0* 16.241 N   96.155 W   33 N                0.9   13  OAXACA, MEXICO
28   19 36 20.4% 44.609 N    6.877 E   10 G                0.5    5  FRANCE. ML 3.0 (LDG).
28   22 42 20.5  15.699 N  147.702 E   33 N  5.1           0.9   42  MARIANA ISLANDS REGION
28   22 48 05.3* 15.706 N  147.797 E   33 N  4.5           0.6   14  MARIANA ISLANDS REGION
29   03 18 11.6? 31.72  S   66.67  W   33 N                1.0    7  LA RIOJA PROVINCE, ARGENTINA
29   03 48 00.1  14.547 N   89.131 W   15 D  5.1 4.4       1.0  134  GUATEMALA. Felt strongly in western Honduras. Also felt
                                                                     at Tegucigalpa, Honduras and (III) at San Salvador, El
                                                                     Salvador.
29   04 24 19.4  37.264 N   72.891 E   65    5.4           1.0  168  TAJIK SSR. Felt (III) at Khorog, Murgab and Rushan.
     CMTS:  (HRV) B092982A    DATA:  GDSN                ; L.P. BODY WAVES:  9S, 24C, T= 45;
     CENTROID LOCATION    OT  4:24:25.2 0.3;  LAT 38.09N 0.06;  LON  72.92E 0.04;  DEP  31.3 2.9;        HALF-DURATION  1.7
     MT: Scale 10**24 d-cm; MRR=-2.02 0.10; MTT= 0.36 0.11; MFF= 1.66 0.07; MRT= -.10 0.16; MRF=-0.31 0.24; MTF=-0.56 0.10
     PRINCIPAL AXES:  (T) VAL=  1.89; PLG= 4; AZM= 70;  (N) VAL=  0.17; PLG= 5; AZM=160;  (P) VAL= -2.06;  PLG=84; AZM=303
     BEST DOUBLE COUPLE:      Mo= 2.0*10**24;    NP1:  STRIKE=155; DIP=41; SLIP= -98;   NP2:  STRIKE=345; DIP=49; SLIP= -83
29   05 50 32.2  14.487 N   89.121 W   12 D  5.5 5.1       0.9  181  GUATEMALA. Three people killed, two injured, many homes
                                                                     damaged, and some landslides in the Dolores
                                                                     Merendon-Ocotepeque area, Honduras. Five hundred fifty
                                                                     four houses damaged in southeastern Guatemala. Nine km.
                                                                     fault scarp with 10 cm. displacement observed about 15
                                                                     km. east of Esquipulas, Guatemala. Also felt at
                                                                     Tegucigalpa, Honduras and (IV) at San Salvador, El
                                                                     Salvador.
     CMTS:  (HRV) B092982B    DATA:  GDSN                ; L.P. BODY WAVES:  12S, 31C, T= 45;
     CENTROID LOCATION    OT  5:50:43.8 0.4;  LAT 14.65N 0.09;  LON  88.89W 0.11;  DEP  22.2 3.2;        HALF-DURATION  1.8
     MT: Scale 10**24 d-cm; MRR=-2.23 0.19; MTT= 0.71 0.22; MFF= 1.52 0.22; MRT= 1.86 0.49; MRF= 0.35 0.41; MTF= 1.40 0.20
     PRINCIPAL AXES:  (T) VAL=  2.99; PLG=16; AZM=313;  (N) VAL=  0.16; PLG=21; AZM= 50;  (P) VAL= -3.15;  PLG=63; AZM=189
     BEST DOUBLE COUPLE:      Mo= 3.1*10**24;    NP1:  STRIKE= 15; DIP=36; SLIP=-130;   NP2:  STRIKE=241; DIP=65; SLIP= -66
29   05 53 36.1  37.205 N   73.149 E   59    4.7           1.3   43  TAJIK SSR
29   08 35 12.0* 42.522 N   18.736 E   10 G                0.8    5  YUGOSLAVIA
29   09 29 45.6  25.175 N  141.788 E   88    5.0           1.2   41  VOLCANO ISLANDS REGION
29   09 39 29.7* 36.512 N  135.803 E   25    4.6           0.8   12  SEA OF JAPAN
29   12 05 47.4* 22.187 N  108.419 W   10 G  4.4           0.8   10  OFF COAST OF CENTRAL MEXICO
29   12 49 00.8* 41.759 N   12.840 E   10 G                0.8    9  SOUTHERN ITALY. ML 3.7 (FIR), 3.8 (TRI). Felt at Rome
                                                                     and Naples.
29   13 30 00.1& 37.091 N  116.045 W    0 G                      15  SOUTHERN NEVADA. <DOE>. ML 4.1 (BRK). 37° 05' 28.69"
                                                                     N., 116° 02' 41.59" W., Surface Elev. 1261 m., Depth of
                                                                     Burial 564 m., Shot Time 133000.096, "BORREGO", Nevada
                                                                     Test Site (Dept. of Energy).
29   15 12 44.3  34.804 N   91.081 E   33 N  4.3           1.2    9  QINGHAI PROVINCE, CHINA
29   16 10 40.4  35.518 N  140.177 E   81    4.9           0.8   26  NEAR EAST COAST OF HONSHU, JAPAN. Felt (II JMA) at
                                                                     Ajiro and (I JMA) at Tokyo, Yokohama, Oshima and
                                                                     Utsunomiya.
29   18 19 16.1& 35.750 N  117.750 W    6 G                      19  CENTRAL CALIFORNIA. <PAS-P>. ML 3.9 (PAS). Felt at
                                                                     Ridgecrest.
29   18 21 01.1& 35.750 N  117.750 W    8 G                       8  CENTRAL CALIFORNIA. <PAS-P>. ML 4.2 (PAS). Felt (IV) at
                                                                     Ridgecrest.
29   18 43 10.8* 38.786 N   21.493 E   10 G  4.0           1.1   11  GREECE. ML 3.3 (ATH).
29   19 03 37.4   7.339 S  155.755 E   59    4.9           1.1   77  SOLOMON ISLANDS
29   19 37 14.7& 35.750 N  117.750 W    9 G                       7  CENTRAL CALIFORNIA. <PAS-P>. ML 3.8 (PAS).
29   20 03 14.7  48.059 N  153.796 E   33 N  4.4 4.0       0.6   10  KURIL ISLANDS
29   20 46 53.0   7.328 S  155.763 E   60    5.3           1.1  100  SOLOMON ISLANDS
29   21 58 29.2* 29.512 S  177.242 W   33 N  5.0 4.6       1.0   24  KERMADEC ISLANDS
29   22 11 24.9*  3.330 N   82.824 W   33 N  4.9           0.8   10  SOUTH OF PANAMA
29   22 35 26.4* 46.107 N   12.461 E   10 G                1.0   14  NORTHERN ITALY. ML 2.7 (TRI), 3.0 (KBA). Felt in the
                                                                     Barcis area.
29   23 21 30.7% 45.211 N    5.563 E   10 G                0.5   10  FRANCE. ML 3.0 (LDG).
30   00 13 07.9  40.895 N   15.414 E   10 G  4.0           1.3   44  SOUTHERN ITALY. ML 4.3 (TRI). Felt (V) at Potenza and
                                                                     Salerno.
30   01 44 07.8   7.059 S  155.765 E   52    5.0           1.0   28  SOLOMON ISLANDS
30   01 54 01.6  15.009 S  173.089 W   63    5.0 5.2       1.4   39  TONGA ISLANDS
30   02 02 06.3* 32.787 S   70.256 W   33 N                0.8    8  CHILE-ARGENTINA BORDER REGION
30   02 27 19.8  42.643 N  111.465 W    5 G                0.5   13  EASTERN IDAHO. ML 3.5 (NEIS).
30   02 28 30.3  21.472 S  177.895 W  410    4.4           1.2   24  FIJI ISLANDS REGION
30   03 15 32.5& 32.000 N  114.917 W    6                        3  W. ARIZ. - MEXICO BORDER REGION. <PAS-P>. ML 3.2 (PAS).
30   04 39 34.0   0.994 S  126.864 E   53    5.0           1.3   40  MOLUCCA SEA
30   04 39 52.3* 40.070 N   24.547 E    9                     1.0   16  AEGEAN SEA. ML 3.7 (ATH).
30   05 07 00.5* 32.219 S   72.105 W   33 N                1.2    9  OFF COAST OF CENTRAL CHILE
30   05 27 26.6* 32.384 S   72.497 W   33 N                0.1    6  OFF COAST OF CENTRAL CHILE
30   05 43 12.0* 32.235 S   72.540 W   33 N                1.3    8  OFF COAST OF CENTRAL CHILE
30   05 44 49.0  38.002 N   73.953 E  185 D  4.8           0.8   71  TAJIK-SINKIANG BORDER REGION
30   06 08 22.1  17.348 N  101.327 W   33 N  4.7 4.3       1.3   56  NEAR COAST OF GUERRERO, MEXICO
30   08 01 42.4   0.659 N  120.777 E  100    4.6           1.3   23  MINAHASSA PENINSULA
30   08 47 24.1* 28.517 S   71.893 W   33 N                1.4   10  NEAR COAST OF CENTRAL CHILE
30   08 52 12.9   9.522 S  107.448 E   33 N  4.3           1.4   27  SOUTH OF JAVA
30   09 16 35.9  32.335 S   71.988 W   33 N                1.3    5  NEAR COAST OF CENTRAL CHILE
30   09 45 33.4* 55.057 S  118.613 W   10 G  5.2 5.3       1.2   25  EASTER ISLAND CORDILLERA
30   09 48 05.1? 65.75  N  145.06  W   15 G                0.6    6  ALASKA. ML 4.3 (PMR). Felt at Fairbanks.
30   11 16 36.7% 46.462 N    7.014 E   10 G                1.2    6  SWITZERLAND. ML 3.5 (LDG).
30   11 23 29.8% 42.667 N    5.254 E   13                  0.6   22  WESTERN MEDITERRANEAN SEA. ML 3.5 (LDG).
30   12 13 27.6*  5.908 N  122.832 E   33 N  4.3           1.0   11  CELEBES SEA
30   13 18 13.4* 32.030 S   71.784 W   59    4.3           1.0   17  NEAR COAST OF CENTRAL CHILE. Felt (V) at Los Vilos and
                                                                     (II) at Santiago.
30   13 20 37.1  20.220 S  173.659 W   33 N  5.1           1.3   24  TONGA ISLANDS
30   13 25 09.6* 32.193 S   70.822 W  102                   0.3    9  CHILE-ARGENTINA BORDER REGION
30   13 35 05.1  18.755 N   64.356 W   56 D  5.1           1.0  112  VIRGIN ISLANDS. Felt.
30   14 23 59.2  14.964 S  173.146 W   33 N  5.5 5.6       1.2  113  SAMOA ISLANDS REGION. Ms 5.4 (BRK).
     CMTS:  (HRV) B093082A    DATA:  GDSN                ; L.P. BODY WAVES:  10S, 28C, T= 45;
     CENTROID LOCATION    OT  14:24: 4.0 0.3;  LAT 14.82S 0.05;  LON 173.50W 0.04;  DEP  10.1 FIX;        HALF-DURATION  2.0
     MT: Scale 10**24 d-cm; MRR= 0.60 0.08; MTT= 1.20 0.11; MFF=-1.81 0.09; MRT= 0.01 0.25; MRF= 3.85 0.29; MTF= 2.16 0.08
     PRINCIPAL AXES:  (T) VAL=  4.08; PLG=41; AZM=307;  (N) VAL=  1.04; PLG=32; AZM=184;  (P) VAL= -5.12;  PLG=32; AZM= 71
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BEST DOUBLE COUPLE: Mo= 4.6*10**24; NP1: STRIKE=106; DIP=32; SLIP= 10; NP2: STRIKE= 7; DIP=85; SLIP= 122

30	15	01	35.3*	32.311	S	71.034	W	33	H		0.9	8	NEAR COAST OF CENTRAL CHILE
30	15	18	27.3*	37.263	N	72.886	E	33	H	4.7	4.1	1.0	18	TAJIK SSR
30	15	36	59.4	36.961	N	23.454	E	82		4.4		1.1	23	SOUTHERN GREECE
30	15	51	44.3?	36.27	N	141.85	E	33	B	4.2		1.0	8	NEAR EAST COAST OF HONSHU, JAPAN
30	16	10	38.7?	15.03	S	173.67	W	33	H	4.5		0.9	15	TONGA ISLANDS
30	17	49	19.4	31.511	S	69.269	W	126				0.7	14	SAN JUAN PROVINCE, ARGENTINA
30	18	00	01.3*	5.557	S	153.056	E	33	H	4.1		1.2	8	NEW IRELAND REGION
30	18	52	33.2?	57.92	N	156.84	W	33	B			0.9	8	ALASKA PENINSULA. ML 3.2 (PMR).
30	22	11	07.0?	20.09	S	178.30	W	410		4.6		1.5	21	FIJI ISLANDS REGION
30	22	38	10.66	35.750	N	117.750	W	8	G	6.4			25	CENTRAL CALIFORNIA. <PAS-P>. ML 4.1 (PAS), 4.4 (BRK). Felt (IV) at Ridgecrest and Inyokern. Also felt at Trona and Onyx.
30	22	58	20.0*	3.043	N	125.077	E	246		4.2		0.8	10	TALAUD ISLANDS
30	23	39	33.9	61.634	N	150.816	W	86				0.5	10	SOUTHERN ALASKA

Compiled by W. Leroy Irby, Willis L. Jacobs, John H. Minsch, Russell E. Needham, Waverly J. Person, Bruce W. Presgrave and William H. Schmieder.

Fault Plane Solutions: A fault plane solution is determined when possible from P-wave first motions for any earthquake having a magnitude of 6.5 or greater. A description of this solution is reported in the comments on the Preliminary Determination of Epicenters Monthly Listing. Focal sphere solutions and first motion parameters are available upon request from:

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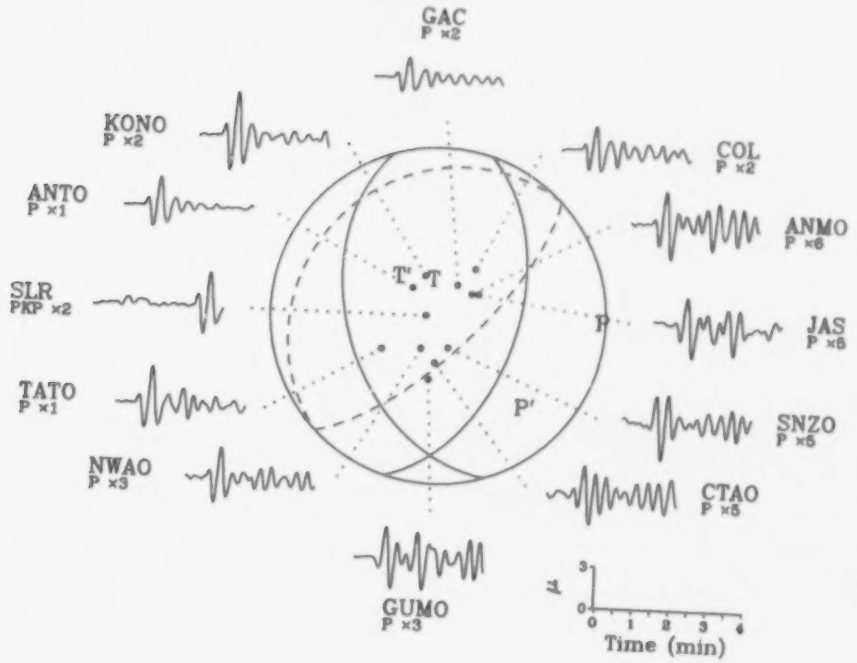
03 September 1982 01:32:00.29
Kuril Islands Region



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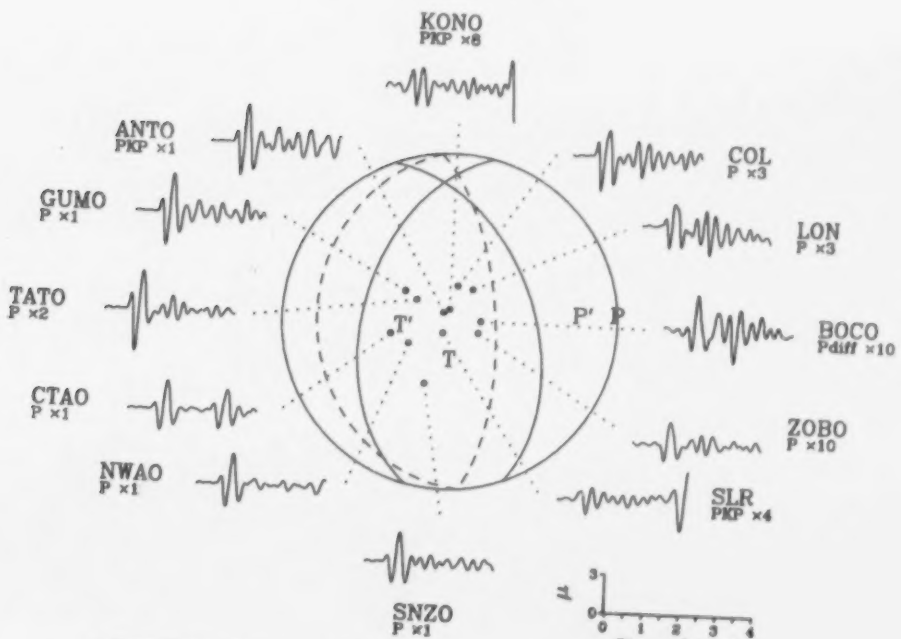
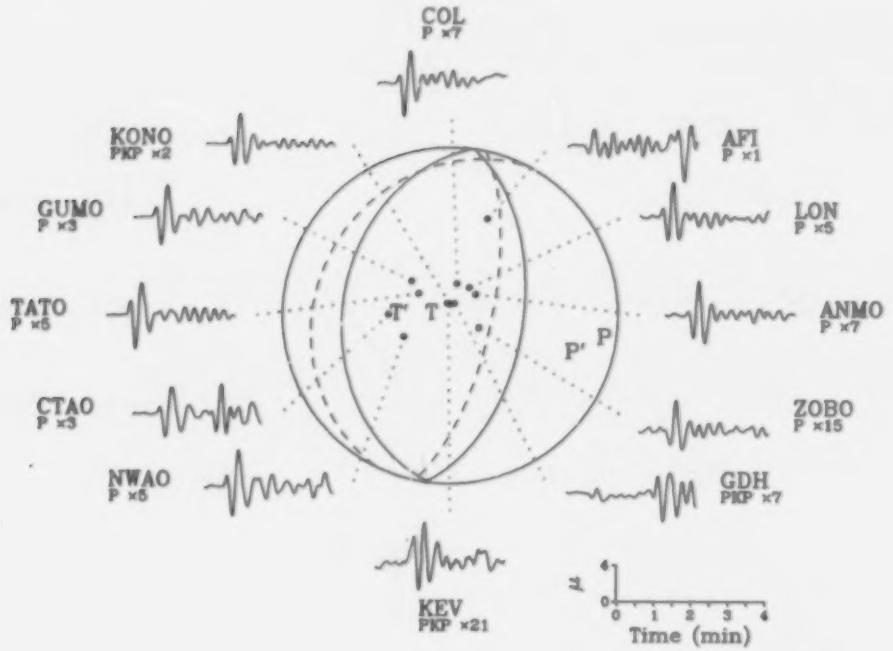
Tonga Islands



Prominant secondary arrival at PKP distances is PP

04 September 1982 13:31:14.93
South of Fiji Islands



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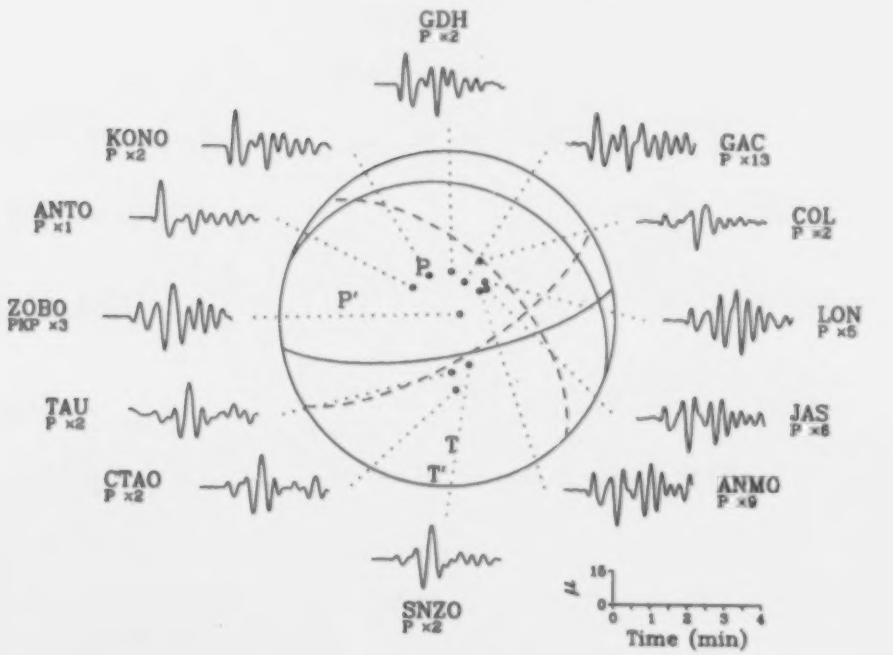
South of Honshu, Japan



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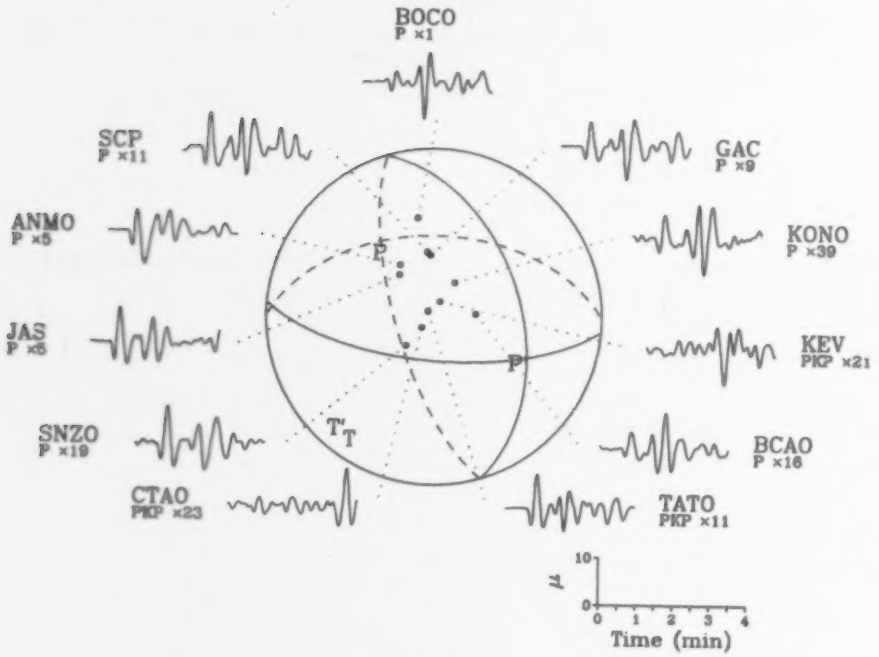
Peru



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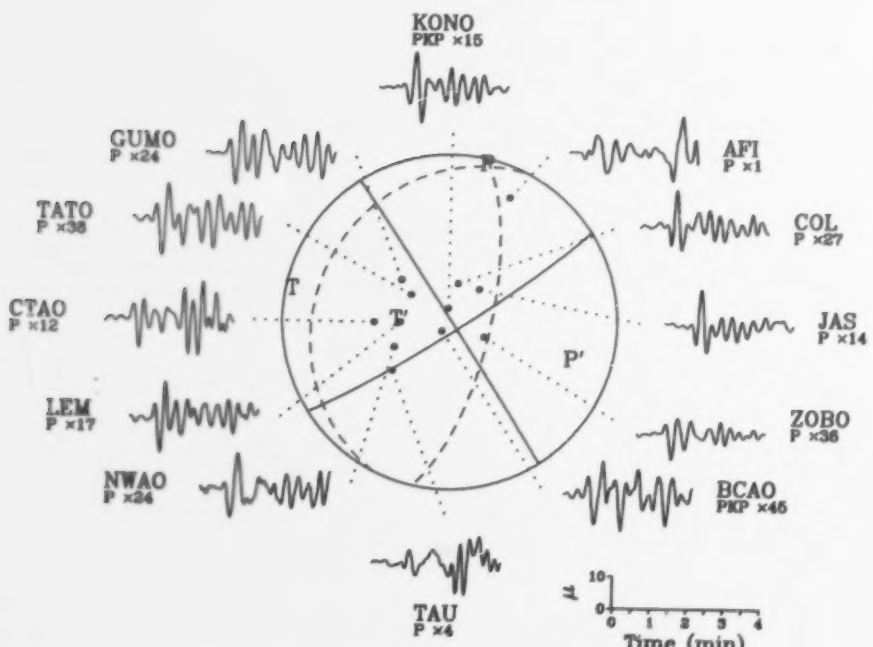

Fault plane solution poorly constrained

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PRELIMINARY DETERMINATION OF EPICENTERS

Monthly Listing

National Earthquake Information Service

OCT 1982

DAY	ORIGIN TIME UTC HR	MN	SEC	GEOGRAPHIC COORDINATES LAT		LONG		DEPTH	MAGNITUDES GS MB	Mss	SD	NO. STA USED	REGION, CONTRIBUTED MAGNITUDES AND COMMENTS
01	01	33	35.1	37.926	N	118.174	W	5 G			1.0	17	CALIFORNIA-NEVADA BORDER REGION. ML 3.9 (BRK), 4.0 (PAS).
01	01	51	45.7	21.373	S	35.284	E	33 N	4.3		1.3	13	MOZAMBIQUE
01	05	35	47.3	1.635	S	15.609	W	10 G	5.0	5.0	0.9	92	NORTH OF ASCENSION ISLAND
01	06	24	58.7&	35.750	N	117.750	W	4 G				9	CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
01	07	59	14.0*	61.611	N	146.361	W	64			0.9	23	SOUTHERN ALASKA
01	08	59	22.0*	16.294	N	98.606	W	33 N	4.3		1.2	18	NEAR COAST OF GUERRERO, MEXICO
01	09	21	16.4&	35.750	N	117.750	W	4 G				11	CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
01	11	22	57.9*	41.667	N	126.087	W	10 G	4.1	3.7	1.3	17	OFF COAST OF NORTHERN CALIFORNIA. ML 3.7 (BRK).
01	12	06	04.2*	16.326	N	122.356	E	63	4.1		1.4	8	LUZON, PHILIPPINE ISLANDS
01	12	19	32.8&	35.733	N	117.750	W	5 G				12	CENTRAL CALIFORNIA. <PAS-P>. ML 3.4 (PAS).
01	12	48	04.2*	26.832	S	26.632	E	5 G			1.1	7	REPUBLIC OF SOUTH AFRICA
01	14	14	21.8	4.050	N	127.164	E	72	4.5		0.7	13	TALAUD ISLANDS
01	14	29	04.6&	35.733	N	117.750	W	8 G	4.9			72	CENTRAL CALIFORNIA. <PAS-P>. ML 5.2 (PAS), 5.4 (BRK). Slight damage (VI) in the China Lake-Inyokern-Ridgecrest area. Felt (V) at Little Lake, Argus, Caliente, Cantil, Johannesburg and Trona. Felt in Kern, San Bernardino, Inyo, Tulare and Los Angeles counties.
01	14	33	06.4&	35.700	N	117.733	W	4 G				6	CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
01	14	37	15.9&	35.757	N	117.783	W	6 G				4	CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
01	14	38	19.2&	35.717	N	117.733	W	4 G				6	CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
01	14	42	55.1?	56.18	N	149.93	W	33 N	4.4		0.9	8	GULF OF ALASKA
01	15	35	48.8*	60.309	N	141.396	W	15 G	4.1		1.2	10	SOUTHEASTERN ALASKA. ML 3.9 (PNR).
01	15	37	50.7*	3.745	S	177.757	E	33 N	4.7		0.9	10	GILBERT ISLANDS REGION
01	15	52	19.7*	3.604	S	177.690	E	33 N	4.8		0.9	19	GILBERT ISLANDS REGION
01	16	53	50.8	37.718	N	139.621	E	145	5.1		0.9	102	HONSHU, JAPAN. Felt (I JMA) in central Honshu.
01	17	14	42.1&	35.750	N	117.750	W	8 G				18	CENTRAL CALIFORNIA. <PAS-P>. ML 3.8 (PAS), 4.2 (BRK).
01	17	22	54.1*	32.736	S	69.581	W	115			0.3	8	MENDOZA PROVINCE, ARGENTINA
01	18	55	37.6	32.419	S	69.861	W	109			0.4	9	MENDOZA PROVINCE, ARGENTINA
01	20	01	26.3&	35.750	N	117.750	W	8 G				8	CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
01	20	32	57.1	51.632	N	16.124	E	10 G			1.0	21	POLAND. ML 3.9 (GRF).
01	20	45	55.4&	35.750	N	117.733	W	6 G				22	CENTRAL CALIFORNIA. <PAS-P>. ML 3.7 (PAS), 4.4 (BRK).
01	20	46	03.2&	35.750	N	117.733	W	6 G				7	CENTRAL CALIFORNIA. <PAS-P>. ML 3.8 (PAS).
01	21	14	13.3&	35.733	N	117.733	W	5 G				10	CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
01	21	42	18.9*	38.541	N	19.556	E	10 G	4.2		1.2	7	IONIAN SEA. ML 3.7 (ATH).
01	22	10	21.9&	35.717	N	117.767	W	7 G	4.5			37	CENTRAL CALIFORNIA. <PAS-P>. ML 4.3 (PAS), 4.7 (BRK). This is a double shock with a second event of similar magnitude occurring 6 to 10 seconds later.
01	22	11	28.8&	35.717	N	117.767	W	7 G	4.3			4	CENTRAL CALIFORNIA. <PAS-P>. ML 4.2 (PAS).
01	22	55	29.6?	44.33	N	110.85	W	5 G			1.3	5	YELLOWSTONE NATIONAL PARK, WYO. ML 3.0 (NEIS). Felt (IV) at Old Faithful.
02	00	10	25.2	49.774	N	126.853	W	10 G	4.2		0.9	13	VANCOUVER ISLAND REGION
02	00	29	13.3	27.754	N	139.896	E	491	4.2		0.8	22	BONIN ISLANDS REGION
02	01	09	21.1*	42.621	N	21.482	E	10 G			1.8	6	YUGOSLAVIA
02	01	19	21.8	27.078	N	126.049	E	219	4.4		0.8	21	EAST CHINA SEA
02	01	26	39.8&	44.514	N	6.437	E	10 G			0.3	7	FRANCE
02	01	51	01.6*	30.947	S	71.824	W	135			0.7	13	NEAR COAST OF CENTRAL CHILE
02	02	00	27.3&	44.5C4	N	6.362	E	10 G			0.3	6	FRANCE
02	02	49	26.2	26.264	S	28.459	E	5 G			1.2	9	REPUBLIC OF SOUTH AFRICA
02	03	08	47.3*	17.512	S	178.417	W	613		4.6	1.0	39	FIJI ISLANDS REGION
02	04	38	04.9*	53.385	N	163.579	W	33 N		4.6	0.8	13	UNIMAK ISLAND REGION
02	04	54	12.8	8.981	S	118.779	E	92		4.9	1.3	39	SUMBAWA ISLAND REGION
02	08	19	53.3	70.482	N	16.569	W	10 G	4.5		0.9	21	JAN MAYEN ISLAND REGION
02	08	26	25.2	14.740	S	167.273	E	149 D	5.6		1.1	220	VANUATU ISLANDS

CMTS: (HRV) B100282A DATA: GDSN ; L.P. BODY WAVES: 135, 31C, T= 45;
CENTROID LOCATION 0T 8:26:30.8 0.3; LAT 14.86S 0.03; LON 166.83E 0.03; DEP 154.6 1.0; HALF-DURATION 3.4
MT: Scale 10**25 d-cm; MRR= 0.74 0.03; MTT= 0.31 0.04; MFF=-1.04 0.04; MRT=-0.63 0.03; MRF= 0.06 0.03; MTF= 0.75 0.04
PRINCIPAL AXES: (T) VAL= 1.26; PLG=48; AZM=163; (N) VAL= 0.16; PLG=40; AZM=326; (P) VAL= -1.43; PLG= 9; AZM= 64

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   BEST DOUBLE COUPLE:      Mo= 1.3*10**25;   NP1:  STRIKE=190; DIP=51; SLIP= 147;   NP2:  STRIKE=303; DIP=65; SLIP=  44
02  09 33 05.96 37.872 N  118.285 W    5 G                          20  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.7 (BRK),
                                                                         4.0 (PAS).
02  11 14 07.2* 36.300 N  152.607 W   33 N  4.2        1.1          12  KODIAK ISLAND REGION. ML 3.3 (PMR).
02  11 52 15.46 37.462 N  118.830 W    3 G                          18  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.7 (BRK),
                                                                         3.2 (PAS).
02  14 01 56.46 35.817 N  117.733 W    6 G                          10  CENTRAL CALIFORNIA. <PAS-P>. ML 3.5 (PAS).
02  15 42 59.3* 16.677 N   99.881 W   33     4.8        1.2          20  NEAR COAST OF GUERRERO, MEXICO
02  16 01 21.16 35.750 N  117.750 W    8 G                          11  CENTRAL CALIFORNIA. <PAS-P>. ML 3.5 (PAS).
02  18 55 59.7  23.391 N  121.494 E   33 N  4.0        1.3          17  TAIWAN
02  22 14 16.3* 32.079 S   71.622 W   33 N               1.2           9  NEAR COAST OF CENTRAL CHILE
02  22 44 32.0  23.652 S   68.015 W  121     4.8        1.2          17  NORTHERN CHILE
03  01 12 57.8   5.637 S  129.885 E  220     5.0        1.1          42  BANDA SEA
03  04 52 08.8  35.115 N   88.551 E   33 N  4.5 4.4     1.1          17  TIBET
03  06 09 28.6* 11.946 N   87.466 W   33 N  4.7         0.8          13  NEAR COAST OF NICARAGUA
03  08 19 49.0* 17.286 S   67.855 E   10 G  4.8         1.2          17  MID-INDIAN RISE
03  08 34 54.6  37.546 N    5.434 W   10 G               1.5           7  SPAIN
03  08 41 29.3   3.475 S  177.662 E   33 N  5.1 4.8     0.8          89  GILBERT ISLANDS REGION
03  09 01 05.7   7.032 S  130.937 E   33 N  4.8         1.0           9  TANIMBAR ISLANDS REGION
03  09 47 42.94 35.817 N  117.750 W    5 G                           8  CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
03  10 20 50.56 32.017 N  116.317 W   10 G                           6  CALIFORNIA-MEXICO BORDER REGION. <PAS-P>. ML 3.1 (PAS).
03  11 02 03.5   9.393 S  152.383 E   33 N  4.9         1.1          42  DENTRECASTEAUX ISLANDS REGION
03  13 52 02.8* 19.372 S   69.566 W  118     4.1        1.6           9  NORTHERN CHILE
03  14 51 56.3  56.094 N  110.543 E   33 N  4.4         0.8           8  LAKE BAIKAL REGION. Felt (III) at Kumora.
03  16 18 10.6* 56.068 N  150.025 W   33 N  4.2         1.5          13  GULF OF ALASKA. ML 3.6 (PMR).
03  17 00 37.07 21.85  S  115.73  E   33 N  4.4         1.2           9  WESTERN AUSTRALIA
03  18 13 47.6* 9.312 S  109.978 W   10 G  5.0 5.2      1.1          23  NORTHERN EASTER I. CORDILLERA
03  19 59 35.0   6.372 S  149.855 E   42     5.3        1.2          52  NEW BRITAIN REGION
03  21 38 34.2  14.442 N   89.209 W   29     4.4        1.2          20  GUATEMALA
03  22 26 34.9   8.177 S  118.405 E   33 N  4.5         1.4          30  SUMBAWA ISLAND REGION
03  23 29 27.9  42.038 N  140.818 E  124     4.7        0.9          31  HOKKAIDO, JAPAN  REGION
04  00 51 01.0* 12.218 S   47.212 E   33 N  4.9         1.1          12  NORTHWEST OF MADAGASCAR
04  02 18 45.0* 18.004 S  176.309 W   33 N  5.2 5.1     1.1          29  FIJI ISLANDS REGION
04  02 23 59.04 37.862 N  118.088 W    5 G                          16  CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.9 (BRK),
                                                                         4.0 (PAS).
04  02 38 14.8* 40.444 N   28.905 E   10 G               1.3           8  TURKEY
04  04 06 28.4  47.392 N    7.725 E   10 G               1.4          17  SWITZERLAND
04  07 01 27.4* 8.786 S  109.304 W   10 G  4.7 5.0      1.3          12  NORTHERN EASTER I. CORDILLERA
04  07 17 32.3% 12.417 S   76.010 W   92                 0.5           6  NEAR COAST OF PERU
04  07 46 52.86 51.435 N  176.620 W   38 G  5.5 5.0               234  ANDREANOF ISLANDS, ALEUTIAN IS. <SPEC>. Ms 4.9 (BRK).
                                                                         Felt (IV) on Adak.
   CMTS:  (HRV) B100482A   DATA:  GDSN            ;  L.P. BODY WAVES:  10S, 28C, T= 45;
   CENTROID LOCATION    OT  7:46:51.8 0.6;  LAT 51.40N 0.05;  LON 177.41W 0.16;  DEP  42.5 5.4;        HALF-DURATION  1.8
   MT: Scale 10**24 d-cm; MRR= 1.03 0.06; MTT=-1.24 0.08; MFF= 0.21 0.09; MRT= 0.73 0.15; MRF= 0.64 0.13; MTF=-0.42 0.12
   PRINCIPAL AXES:  (T) VAL=  1.47; PLG=64; AZM=294;  (N) VAL=  0.18; PLG=18; AZM= 65;  (P) VAL= -1.65;  PLG=19; AZM=161
   BEST DOUBLE COUPLE:      Mo= 1.6*10**24;   NP1:  STRIKE=277; DIP=31; SLIP= 127;   NP2:  STRIKE= 57; DIP=66; SLIP=  71
04  08 47 58.2  20.521 S   66.746 W  230     4.2        1.1          17  SOUTHERN BOLIVIA
04  08 52 28.1   5.840 N  126.779 E   91     5.2        1.1          66  MINDANAO, PHILIPPINE ISLANDS
04  09 15 00.1  32.128 S   69.925 W  137                0.8          13  MENDOZA PROVINCE, ARGENTINA
04  15 17 52.7  23.848 N  122.792 E   33 N  3.7         0.7          14  TAIWAN REGION
04  15 23 26.9  22.653 S  171.175 E   33 N  5.1 5.0     1.3          56  LOYALTY ISLANDS REGION
04  15 41 08.9  31.971 S  178.514 W   66     5.6        1.3          27  KERMADEC ISLANDS REGION
04  16 20 40.0  22.650 S  171.143 E   33 N  4.7         1.3          63  LOYALTY ISLANDS REGION
04  16 56 27.6* 7.414 S  145.031 E   33 N               1.0           6  NEAR S COAST OF PAPUA NEW GUINEA
04  17 23 40.1* 22.583 S  171.028 E   33 N               1.4          22  LOYALTY ISLANDS REGION
04  17 44 48.9   5.749 S  146.876 E   72                 0.6           7  EAST PAPUA NEW GUINEA REGION
04  17 45 18.7? 15.26  N   61.12  W   33 N               1.1           8  LEEWARD ISLANDS
04  18 37 37.9  40.857 N   24.021 E   10 G               0.6          10  AEGEAN SEA
04  18 43 28.56 35.750 N  117.767 W    8 G                          21  CENTRAL CALIFORNIA. <PAS-P>. ML 3.9 (PAS), 4.1 (BRK).
04  19 38 24.4% 42.008 N    3.678 E   10 G               1.1           8  PYRENEES
04  20 51 43.3  40.509 N   23.530 E   10 G               0.9          15  GREECE
04  21 06 24.26 35.750 N  117.733 W    5 G                           6  CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
04  22 10 22.7  15.430 S  167.455 E  136     4.9        1.2          44  VANUATU ISLANDS
05  00 18 52.8   0.238 N  122.232 E  220     4.9        1.1          29  MINAHASSA PENINSULA
05  01 26 45.7* 13.875 N   92.051 W   33 N  4.7         0.8          25  OFF COAST OF CHIAPAS, MEXICO
05  02 01 40.4* 17.031 S   74.684 W   33 N  4.6         1.0           9  OFF COAST OF PERU
05  04 09 16.7   3.689 S  177.690 E   33 N  5.3 4.8     0.9         101  GILBERT ISLANDS REGION
05  04 46 14.6  22.686 S  175.008 W   33 N  5.0         1.0          15  TONGA ISLANDS REGION
05  06 57 20.9  42.976 N   18.758 E   10 G               1.1          12  YUGOSLAVIA. ML 3.6 (TIR), 3.2 (TRI).
05  07 45 10.0* 32.053 S   68.519 W  116                 0.7           8  MENDOZA PROVINCE, ARGENTINA
05  07 59 25.2* 44.163 N   26.683 E   10 G               0.7           6  ROMANIA
05  08 47 21.0* 27.618 N   53.313 E   33 N  4.5         1.1          11  SOUTHERN IRAN
05  09 14 32.5  15.591 S  168.004 E   18     5.8 5.4     1.0         190  VANUATU ISLANDS. Ms 5.7 (BRK), 5.4 (PAS). [FS].
       FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=132; DIP=72;  SLIP=  24.   NP2:  STRIKE= 34; DIP=67;  SLIP= 160
       PRINCIPAL AXES:  (T)  PLG=30;  AZM=354.   (P)  PLG= 3;  AZM=262
                                                                        Poorly controlled strike-slip fault type mechanism. NP
                                                                        to be designated as the fault plane not determined.
   MOMENT TENSOR SOLUTION.   NO OF STA   9.   SCALE 10**25 D-CM
   PRINCIPAL AXES:  (T) VAL=  1.00; PLG=77; AZM= 73;  (N) VAL=  0.19; PLG=10; AZM=208;  (P) VAL= -1.18;  PLG= 9; AZM=299
   BEST DOUBLE COUPLE:      Mo= 1.1*10**25;   NP1:  STRIKE= 41; DIP=37; SLIP= 106;   NP2:  STRIKE=201; DIP=55; SLIP=  78
   CMTS:  (HRV) B100582A   DATA:  GDSN            ;  L.P. BODY WAVES:  14S, 38C, T= 45;
   CENTROID LOCATION    OT  9:14:40.4 0.2;  LAT 15.43S 0.03;  LON 167.74E 0.03;  DEP  10.1 FIX;        HALF-DURATION  3.3
   MT: Scale 10**24 d-cm; MRR= 6.97 0.19; MTT= 1.60 0.30; MFF=-8.57 0.26; MRT=-1.75 0.68; MRF= 3.23 0.96; MTF=-0.90 0.21
   PRINCIPAL AXES:  (T) VAL=  8.16; PLG=70; AZM=215;  (N) VAL=  1.08; PLG=16; AZM=  0;  (P) VAL= -9.25;  PLG=11; AZM= 93
   BEST DOUBLE COUPLE:      Mo= 8.7*10**24;   NP1:  STRIKE=203; DIP=37; SLIP= 118;   NP2:  STRIKE=349; DIP=58; SLIP=  71
05  09 43 47.4% 46.682 N    0.218 W    5                 1.1           7  FRANCE
05  10 11 29.9* 13.791 S  167.232 E  232     4.2        1.3          28  VANUATU ISLANDS
05  10 15 04.6  30.516 S  177.808 W   54 D  5.6         1.2          28  KERMADEC ISLANDS
   CMTS:  (HRV) B100582B   DATA:  GDSN            ;  L.P. BODY WAVES:  9S, 17C, T= 45;
   CENTROID LOCATION    OT 10:15:29.2 1.2;  LAT 29.86S 0.12;  LON 178.28W 0.12;  DEP 162.6 7.3;        HALF-DURATION  1.7
   MT: Scale 10**24 d-cm; MRR= 0.22 0.16; MTT=-1.33 0.17; MFF= 1.11 0.17; MRT=-0.12 0.15; MRF=-0.73 0.17; MTF=-0.62 0.21
   PRINCIPAL AXES:  (T) VAL=  1.60; PLG=27; AZM= 79;  (N) VAL= -0.07; PLG=61; AZM=235;  (P) VAL= -1.53;  PLG=10; AZM=344
   BEST DOUBLE COUPLE:      Mo= 1.6*10**24;   NP1:  STRIKE=119; DIP=64; SLIP= 168;   NP2:  STRIKE=214; DIP=79; SLIP=  27
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05   11 38 56.8*  4.567 S  134.219 E   33 N  4.1        0.8    5  WEST IRIAN REGION
05   12 04 12.6   4.223 N  126.683 E   91     5.1        1.0   48  TALAUD ISLANDS
05   13 11 15.9*  6.757 S  154.490 E   33 N  4.0        1.0    6  SOLOMON ISLANDS
05   16 02 08.2*  6.855 S  129.101 E  191     4.1        1.1    8  BANDA SEA
05   17 20 35.8* 61.586 N  150.128 W   60                1.1    7  SOUTHERN ALASKA
05   19 38 43.5% 30.023 S   69.108 W  156                0.3    5  CHILE-ARGENTINA BORDER REGION
05   19 42 41.2  76.645 N    7.075 E   10 G  4.6        1.3    9  SVALBARD REGION
05   19 45 29.0* 53.343 S    3.543 W   10 G  4.5        1.1    7  SOUTH ATLANTIC RIDGE
05   19 46 27.3  33.119 N  136.918 E  391     4.7        0.9   54  NEAR S. COAST OF SOUTHERN HONSHU
05   20 17 19.5  30.068 S  179.222 W  327     4.8        1.3   36  KERMADEC ISLANDS REGION
05   20 25 56.4  22.797 S  171.150 E   41     5.5 5.4    1.3  109  LOYALTY ISLANDS REGION
   CMTS:  (HRV) B100582C   DATA:  GDSN            ;  L.P. BODY WAVES:  9S, 25C, T= 45;
   CENTROID LOCATION   OT 20:26: 3.0 0.5;  LAT 22.26S 0.11;  LON 170.86E 0.07;  DEP  10.1 FIX;          HALF-DURATION  1.8
   MT: Scale 10**24 d-cm; MRR= 0.75 0.12; MTT=-0.59 0.18; MFF=-0.16 0.11; MRT= 4.35 0.28; MRF=-0.21 0.28; MTF= 0.50 0.11
   PRINCIPAL AXES:  (T) VAL=  4.49; PLG=49; AZM=357;  (N) VAL= -0.10; PLG= 6; AZM= 94;  (P) VAL= -4.38;  PLG=40; AZM=189
   BEST DOUBLE COUPLE:       Mo= 4.4*10**24;   NP1:  STRIKE=327; DIP= 8; SLIP= 143;   NP2:  STRIKE= 94; DIP=85; SLIP=  84
05   21 39 12.5  53.451 S    3.467 W   10 G  5.8 5.3    0.9   43  SOUTH ATLANTIC RIDGE
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE= 24;  DIP=76;  SLIP= 360.   NP2:  STRIKE=114;  DIP=90;  SLIP= 194
        PRINCIPAL AXES:   (T)  PLG=10;  AZM=248.   (P)  PLG=10;  AZM=340
                                                                  Poorly controlled left-lateral strike-slip fault type
                                                                  mechanism. NP1 designated as the fault plane.
   CMTS:  (HRV) B100582D   DATA:  GDSN            ;  L.P. BODY WAVES:  11S, 26C, T= 45;
   CENTROID LOCATION   OT 21:39:18.8 0.4;  LAT 53.58S 0.04;  LON   3.30W 0.16;  DEP  10.4 2.5;          HALF-DURATION  1.8
   MT: Scale 10**24 d-cm; MRR=-2.56 0.08; MTT= 2.35 0.11; MFF= 0.20 0.11; MRT=-0.73 0.47; MRF= 0.40 0.42; MTF=-0.99 0.12
   PRINCIPAL AXES:  (T) VAL=  2.87; PLG= 9; AZM=202;  (N) VAL= -0.18; PLG= 2; AZM=292;  (P) VAL= -2.68;  PLG=81; AZM= 37
   BEST DOUBLE COUPLE:       Mo= 2.8*10**24;   NP1:  STRIKE=289; DIP=36; SLIP= -94;   NP2:  STRIKE=114; DIP=54; SLIP= -87
05   21 39 36.76 18.906 N  155.260 W   15 G                    11  HAWAII. <HVO-P>. ML 4.2 (HVO).
05   22 14 42.0  43.072 N   18.024 E   10 G        1.3        23  YUGOSLAVIA. ML 4.1 (TRI), 3.9 (TIR).
06   01 17 22.0  34.369 N   25.701 E   33 N  4.4   0.9        18  CRETE. ML 4.1 (ATH).
06   03 59 08.6% 39.563 N   28.799 E   10 G        1.0         7  TURKEY
06   05 16 53.9   9.827 S  117.921 E   33 N  5.1   1.3        39  SUMBAWA ISLAND REGION
06   05 18 32.07 12.69  S   33.99  E   33 N        1.2         6  MALAWI
06   10 31 40.6   7.281 S  148.921 E   35     4.1   0.6        14  EAST PAPUA NEW GUINEA REGION
06   10 38 16.3& 35.417 N  118.267 W    2 G                    13  CENTRAL CALIFORNIA. <PAS-P>. ML 3.5 (PAS).
06   11 38 40.5& 35.767 N  117.600 W    4 G                    10  CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
06   11 55 29.3& 35.767 N  117.600 W    4 G                     5  CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
06   13 27 19.0  12.090 S  117.178 E   33 N  4.1   1.3        17  SOUTH OF SUMBAWA ISLAND
06   14 33 28.8  37.159 N   72.657 E   71     4.7   1.4        13  TAJIK SSR
06   16 37 20.7*  3.975 N  126.933 E   82     4.5   0.9         8  TALAUD ISLANDS
06   18 43 34.7*  3.828 S  177.850 E   33 N  4.9   0.8        17  GILBERT ISLANDS REGION
06   19 50 51.7  17.381 N  101.214 W   41     5.0   1.0        69  NEAR COAST OF GUERRERO, MEXICO
06   21 13 12.2  22.661 S  171.121 E   33 N  5.3 5.0   1.2    87  LOYALTY ISLANDS REGION
   CMTS:  (HRV) B100682A   DATA:  GDSN            ;  L.P. BODY WAVES:  11S, 28C, T= 45;
   CENTROID LOCATION   OT 21:13:18.5 0.4;  LAT 22.35S 0.06;  LON 170.66E 0.05;  DEP  10.1 FIX;          HALF-DURATION  2.0
   MT: Scale 10**24 d-cm; MRR= 2.22 0.12; MTT=-1.68 0.14; MFF=-0.54 0.13; MRT= 4.20 0.45; MRF= 0.57 0.47; MTF= 1.60 0.13
   PRINCIPAL AXES:  (T) VAL=  5.22; PLG=54; AZM=337;  (N) VAL= -0.58; PLG=19; AZM= 96;  (P) VAL= -4.64;  PLG=29; AZM=197
   BEST DOUBLE COUPLE:       Mo= 4.9*10**24;   NP1:  STRIKE=329; DIP=24; SLIP= 146;   NP2:  STRIKE= 91; DIP=77; SLIP=  70
06   21 32 49.0  22.513 S  171.073 E   33 N  4.8   1.0        17  LOYALTY ISLANDS REGION
06   21 44 59.2* 22.577 S  171.123 E   33 N  4.9   1.4        20  LOYALTY ISLANDS REGION
06   23 23 43.8  19.318 S   70.245 W   68 D  5.1   1.0        67  NEAR COAST OF NORTHERN CHILE. Felt at Arica.
07   01 08 11.6  22.681 S  171.202 E   33 N  4.9 4.7   1.2    19  LOYALTY ISLANDS REGION
07   01 17 14.7  13.542 N   91.079 W   33 N  4.5        1.2    28  NEAR COAST OF GUATEMALA
07   01 27 31.2  29.278 N  128.757 E   45     4.6        1.0    14  EAST CHINA SEA
07   01 52 28.7  23.419 N   94.416 E   92     4.7        0.9    34  BURMA-INDIA BORDER REGION
07   02 27 50.2* 38.795 N   21.439 E   10 G               1.0     5  GREECE. ML 3.2 (ATH).
07   02 59 15.8*  3.647 S  177.760 E   33 N  4.8        0.7    30  GILBERT ISLANDS REGION
07   03 15 41.7*  7.178 N   78.369 W   33 N  4.3        1.3    11  PANAMA
07   07 15 56.6   7.156 S  125.876 E  515     6.2        1.0   309  BANDA SEA. mb 6.6 (PAS). [FS].
        FAULT PLANE SOLUTION: P-WAVES.   NP1:  STRIKE=337;  DIP=63;  SLIP= 217.   NP2:  STRIKE=228;  DIP=58;  SLIP= 327
        PRINCIPAL AXES:   (T)  PLG= 3;  AZM=101.   (P)  PLG=44;  AZM=195
                                                                  Moderately well controlled normal fault type mechanism
                                                                  with a fair component of strike-slip. NP to be
                                                                  designated as the fault plane not determined.
   CMTS:  (HRV) C100782A   DATA:  GDSN, IDA       ;  L.P. BODY WAVES:  14S, 34C, T= 45;   MANTLE WAVES:  19S, 36C, T=135
   CENTROID LOCATION   OT  7:16: 2.0 0.1;  LAT  6.98S 0.01;  LON 125.88E 0.01;  DEP 520.9 1.0;          HALF-DURATION  7.4
   MT: Scale 10**26 d-cm; MRR=-1.02 0.01; MTT=-0.25 0.02; MFF= 1.27 0.02; MRT= 0.53 0.01; MRF= 0.20 0.01; MTF= 0.31 0.01
   PRINCIPAL AXES:  (T) VAL=  1.37; PLG= 8; AZM=283;  (N) VAL= -0.08; PLG=26; AZM= 17;  (P) VAL= -1.29;  PLG=63; AZM=178
   BEST DOUBLE COUPLE:       Mo= 1.3*10**26;   NP1:  STRIKE=347; DIP=44; SLIP=-129;   NP2:  STRIKE=215; DIP=57; SLIP= -59
07   08 39 24.6*  9.828 S  117.463 E   33 N  4.7        1.4     8  SUMBAWA ISLAND REGION
07   09 26 02.3? 3.50  S  177.52  E   33 N  4.7        0.6    12  GILBERT ISLANDS REGION
07   09 26 02.6* 42.997 N  111.068 W    5 G               0.2     9  EASTERN IDAHO. ML 3.0 (NEIS), 3.5 (MSO). Felt (III) at
                                                                  Freedom, Wyoming and (II) at Thayne, Wyoming.
07   10 13 38.8  34.608 N   26.246 E   71     4.3        0.9    26  CRETE
07   11 02 17.3  32.345 N  137.513 E  386     5.1        0.8   137  SOUTH OF HONSHU, JAPAN
07   11 27 44.3* 34.370 N   26.925 E  147     4.4        1.1    18  CRETE
07   12 41 25.9& 34.309 N  106.825 W    4 G                    1  NEW MEXICO. <GS>. ML 2.4 (GS). Felt.
07   12 43 01.8*  9.184 S  112.384 E   33 N  4.4        0.4     6  SOUTH OF JAVA
07   13 40 19.2   3.566 S  177.730 E   29 D  4.9 4.4    0.9    39  GILBERT ISLANDS REGION
07   15 50 05.0& 35.717 N  117.733 W    5 G                   10  CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
07   17 14 18.5* 36.114 N   25.790 E   77     4.4        1.2    13  DODECANESE ISLANDS
07   17 54 36.0& 35.733 N  117.733 W   10 G  3.8           1.3    13  CENTRAL CALIFORNIA. <PAS-P>. ML 3.9 (PAS).
07   18 59 55.4*  4.247 N  126.713 E   93     4.9        0.9    10  TALAUD ISLANDS
07   21 57 03.6  32.190 N  142.327 E   33 N  4.8        0.9    46  SOUTH OF HONSHU, JAPAN
07   23 40 52.6  38.406 N   69.260 E   33 N  4.7        1.3    14  TAJIK SSR. Felt (IV) in the Hurek area.
08   01 32 34.1* 15.543 S  173.307 W   33 N  4.4        0.3     8  TONGA ISLANDS
08   01 37 07.5* 41.892 N   20.798 E   10 G               1.2     6  ALBANIA. ML 2.6 (TIR). Felt in the Albania-Yugoslavia
                                                                  border area.
08   01 55 28.5* 30.300 S   67.508 W   80                 1.4     9  SAN JUAN PROVINCE, ARGENTINA
08   03 36 18.2  44.115 N   26.604 E   10 G               1.1     8  ROMANIA
08   05 57 19.6% 45.552 N    3.500 E   10 G               0.7     9  FRANCE
08   05 58 12.5% 45.545 N    3.500 E   10 G               0.9     8  FRANCE
08   06 05 08.5% 45.567 N    3.459 E   10 G               1.0     9  FRANCE
08   06 24 49.5  13.557 N   92.475 W   33 N  4.6        1.0    34  OFF COAST OF CHIAPAS, MEXICO
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08	06	33	15.6%	45.542	N	3.550	E	10	G			1.1	9	FRANCE
08	06	33	49.0%	45.507	N	3.561	E	10	G			1.0	6	FRANCE
08	08	34	55.5*	41.860	N	20.853	E	10	G			0.8	8	ALBANIA. ML 3.0 (TTG).
08	09	01	24.1*	4.791	S	103.069	E	91		4.7		1.0	21	SOUTHERN SUMATERA
08	09	14	34.5	44.490	N	9.798	E	10	G			1.3	25	NORTHERN ITALY. ML 3.3 (TRI). Felt.
08	09	42	58.9*	37.522	N	118.770	W	5	G			1.1	11	CALIFORNIA-NEVADA BORDER REGION. ML 3.1 (BRK).
08	09	53	32.1%	42.620	N	111.469	W	7	G				18	EASTERN IDAHO. <SLC>. ML 3.5 (SLC). Felt (IV) at Georgetown.
08	10	06	59.0%	42.623	N	111.473	W	7	G				19	EASTERN IDAHO. <SLC>. ML 3.8 (SLC). Felt (V) at Conda and (IV) at Soda Springs.
08	10	28	16.9?	15.37	N	98.26	W	33	N			1.4	12	OFF COAST OF GUERRERO, MEXICO
08	10	38	12.6%	31.817	N	116.683	W	4	G				4	BAJA CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
08	10	44	52.5*	59.197	N	152.479	W	33	N	3.8		1.4	9	SOUTHERN ALASKA
08	11	20	02.1%	45.522	N	3.551	E	10	G			1.1	8	FRANCE
08	13	19	45.9%	45.441	N	3.618	E	10	G			1.0	12	FRANCE
08	13	34	56.2	26.299	N	99.918	E	33	N	5.0	4.5	1.1	32	YUNNAN PROVINCE, CHINA
08	16	04	09.0%	42.625	N	111.485	W	7	G				8	EASTERN IDAHO. <SLC>. ML 3.2 (SLC). Felt in the Soda Springs area.
08	16	31	49.5	25.994	N	125.743	E	110		4.9		1.1	68	SOUTHWESTERN RYUKYU ISLANDS
08	17	09	51.2*	38.243	N	22.557	E	10	G	4.2		1.3	18	GREECE. ML 3.4 (ATH).
08	17	17	40.2	12.699	S	14.686	W	10	G	4.8		0.3	14	SOUTH ATLANTIC RIDGE
08	17	34	12.8%	24.706	N	121.570	E	33	N			0.9	8	TAIWAN
08	17	37	49.3%	45.541	N	3.541	E	10	G			1.6	6	FRANCE
08	18	45	30.2*	23.192	S	179.804	W	536		5.1		1.0	22	SOUTH OF FIJI ISLANDS
08	18	59	14.6	37.214	N	71.999	E	82		4.9		0.7	14	AFGHANISTAN-USSR BORDER REGION
08	21	36	27.2	40.097	N	27.597	E	10	G			0.6	10	TURKEY
08	23	22	35.8%	45.453	N	3.681	E	10	G			1.2	12	FRANCE
09	00	53	15.0	40.066	N	143.715	E	33	N	4.8	4.5	0.9	55	OFF EAST COAST OF HONSHU, JAPAN
09	02	43	42.5	34.605	N	136.024	E	65				0.6	19	SOUTHERN HONSHU, JAPAN. Felt (II JMA).
09	06	07	18.7	42.627	N	23.987	E	10	G			1.4	9	BULGARIA
09	07	51	09.7	41.168	N	23.141	E	13				0.8	12	GREECE-BULGARIA BORDER REGION
09	08	51	51.2	1.418	S	67.460	E	10	G	4.6		0.9	10	CARLSBERG RIDGE
09	09	05	02.8?	42.47	N	20.75	E	10	G			1.3	5	YUGOSLAVIA
09	09	37	27.5	22.643	S	171.614	E	33	N	4.7		1.0	18	LOYALTY ISLANDS REGION
09	12	49	15.2?	41.45	N	22.12	E	10	G			1.6	5	YUGOSLAVIA
09	15	32	20.0	31.887	S	69.033	W	107				0.7	12	SAN JUAN PROVINCE, ARGENTINA
09	16	23	53.6	31.548	S	69.221	W	122				0.7	9	SAN JUAN PROVINCE, ARGENTINA
09	18	13	58.0	39.364	N	25.521	E	10	G			0.6	10	AEGEAN SEA. ML 3.5 (ATH).
09	18	53	02.3	3.443	S	177.757	E	33	N	5.3	4.7	0.9	102	GILBERT ISLANDS REGION
09	19	11	48.7	60.242	N	136.935	W	20		4.1		1.1	12	SOUTHERN YUKON TERRITORY, CANADA. ML 4.4 (PMR).
09	19	40	23.0	3.465	S	177.695	E	33	N	5.3		0.8	142	GILBERT ISLANDS REGION
09	20	22	09.2	35.580	N	22.762	E	61		4.2		1.1	25	MEDITERRANEAN SEA
09	22	09	11.7	16.637	S	167.422	E	33	N	4.9	4.9	1.1	43	VANUATU ISLANDS
09	22	49	44.5	5.964	N	126.048	E	144		4.7		0.9	16	MINDANAO, PHILIPPINE ISLANDS
10	00	59	17.0	39.093	N	29.498	E	10	G			1.1	12	TURKEY
10	04	59	56.7	61.553	N	112.864	E	0	G	5.3		0.8	124	CENTRAL SIBERIA
10	05	11	25.5%	37.492	N	118.827	W	11	G				15	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.0 (BRK), 3.0 (PAS).
10	05	13	32.3	12.193	N	123.851	E	15		4.8		1.2	33	LUZON, PHILIPPINE ISLANDS. Felt (III RF) on Masbate and (II RF) at Legaspi.
10	05	24	54.9*	45.389	N	14.328	E	10	G			1.1	18	YUGOSLAVIA. ML 3.0 (TRI). Felt (IV) in the Ilirska Bistrica area.
10	05	51	43.1	40.464	N	23.487	E	10	G			1.3	12	GREECE
10	05	55	46.2	18.451	S	69.729	W	145				1.4	10	NORTHERN CHILE
10	06	13	37.8	14.306	N	60.592	W	96		4.7		0.5	27	WINDWARD ISLANDS. Felt (III) on Martinique.
10	08	53	57.3?	15.03	S	71.72	W	33	N			1.3	6	SOUTHERN PERU
10	11	16	25.8	70.412	N	15.269	W	10	G	4.9		1.1	72	JAN MAYEN ISLAND REGION
10	12	07	13.4	70.352	N	15.437	W	10	G	4.6	4.3	1.0	59	JAN MAYEN ISLAND REGION
10	12	25	46.7?	1.00	N	28.82	W	10	G	5.1		1.4	5	CENTRAL MID-ATLANTIC RIDGE
10	12	41	05.8	17.790	S	178.413	W	570		4.7		0.9	43	FIJI ISLANDS REGION
10	14	36	47.1*	11.693	N	70.501	W	33	N			0.6	6	NEAR COAST OF VENEZUELA
10	15	32	49.1?	33.03	S	70.42	W	80				0.2	7	CHILE-ARGENTINA BORDER REGION
10	17	23	03.9	40.177	N	143.749	E	28	D	5.4	5.2	1.0	198	OFF EAST COAST OF HONSHU, JAPAN. Felt (I JMA) in northern Honshu and southern Hokkaido.
10	17	44	45.3	54.782	S	130.500	W	10	G	5.5		0.8	51	SOUTH PACIFIC CORDILLERA
10	20	36	29.0	7.231	S	129.655	E	155		4.9		1.3	39	BANDA SEA
10	22	08	46.5	24.071	N	122.521	E	33	N	3.8		0.6	9	TAIWAN REGION
10	22	22	51.0*	30.450	S	72.236	W	33	N			0.9	11	OFF COAST OF CENTRAL CHILE
11	03	19	46.2	35.595	N	27.752	E	76		4.6		1.1	101	DODECANESE ISLANDS
11	04	03	49.4*	28.529	S	70.567	W	33	N	4.2		1.1	14	CENTRAL CHILE
11	04	35	30.9*	34.406	S	71.393	W	98		4.6		1.5	19	NEAR COAST OF CENTRAL CHILE
11	06	49	30.9	22.436	S	68.528	W	119		4.3		1.2	12	NORTHERN CHILE
11	07	14	58.2	73.392	N	54.559	E	0	G	5.6	3.6	0.8	.2I6	NOVAYA ZEMLYA. Underground nuclear explosion. (Dept. of Energy press release N82-037).
11	08	51	03.4*	14.389	S	166.389	E	96		4.5		0.7	8	VANUATU ISLANDS
11	09	55	14.3*	6.534	S	149.422	E	52		4.5		1.1	9	NEW BRITAIN REGION
11	10	14	40.8	16.139	S	175.011	W	302		4.6		1.0	47	TONGA ISLANDS
11	10	25	35.2	62.553	S	166.926	E	10	G	5.7	4.9	1.1	33	BALLENY ISLANDS REGION
	CMTS: (HRV) B101182A DATA: GDSN ; L.P. BODY WAVES: 10S, 18C, T= 45;														
	CENTROID LOCATION OT 10:25:41.1 1.1; LAT 62.23S 0.13; LON 168.21E 0.32; DEP 10.1 FIX; HALF-DURATION 1.5														
	MT: Scale 10**23 d-cm; MRR=-4.01 0.56; MTT= 7.43 0.73; MFF=-3.41 0.60; MRT= 0.06 2.37; MRF= 6.35 1.47; MTF= 0.63 0.66														
	PRINCIPAL AXES: (T) VAL= 7.49; PLG= 3; AZM=355; (N) VAL= 2.59; PLG=43; AZM=262; (P) VAL=-10.08; PLG=46; AZM= 88														
	BEST DOUBLE COUPLE: Mo= 8.8*10**23; NP1: STRIKE=121; DIP=57; SLIP= -35; NP2: STRIKE=231; DIP=62; SLIP=-141														
11	10	35	14.1*	8.818	N	126.625	E	52		4.4		1.3	16	MINDANAO, PHILIPPINE ISLANDS
11	14	07	41.0%	40.385	N	124.967	W	5	G				7	NEAR COAST OF NORTHERN CALIF. <BRK>. ML 3.2 (BRK).
11	15	31	12.1	61.602	N	149.943	W	59				0.6	14	SOUTHERN ALASKA
11	15	43	41.8*	39.093	N	25.427	E	13				0.9	21	AEGEAN SEA
11	15	50	53.7?	20.62	S	177.81	W	539		4.4		1.0	12	FIJI ISLANDS REGION
11	16	21	35.2*	5.903	S	104.996	E	117		3.9		1.1	16	SOUTHERN SUMATERA
11	16	36	47.1	27.479	S	176.417	W	45	D	5.2		0.9	60	KERMADEC ISLANDS REGION
11	17	22	03.1E	16.915	N	98.537	W	33	N			0.6	5	NEAR COAST OF GUERRERO, MEXICO
11	17	56	14.7*	41.715	N	23.830	E	10	G			1.3	6	GREECE-BULGARIA BORDER REGION
11	18	22	59.9?	14.93	N	96.02	W	33	N			0.7	10	OFF COAST OF OAXACA, MEXICO

11	19	24	38.4*	4.040	N	95.092	E	33	N	4..		1.3	7	NORTHERN SUMATERA
11	22	28	41.4I	44.369	N	7.019	E	10	G			0.3	7	NORTHERN ITALY. ML 3.1 (LDG).
11	23	25	13.0*	2.038	N	99.324	E	171		4.0		0.7	8	NORTHERN SUMATERA
12	00	21	26.1*	21.088	S	68.812	W	136				0.2	5	CHILE-BOLIVIA BORDER REGION
12	01	33	58.5	44.821	N	17.437	E	10	G			1.1	16	YUGOSLAVIA. ML 3.6 (TRI). Felt (V) in the Banja Luka area.
12	02	35	15.3*	7.364	S	105.873	E	33	N	4.2		1.1	20	JAVA
12	03	12	45.7?	25.41	S	179.17	E	656		4.6		0.6	16	SOUTH OF FIJI ISLANDS
12	04	49	38.4	37.212	N	69.674	E	33	N	4.6		1.1	27	AFGHANISTAN-USSR BORDER REGION. Felt (III) in the Dushanbe-Kulyab area, USSR.
12	05	12	59.2*	29.174	N	130.689	E	53		4.2	4.1	1.0	18	RYUKYU ISLANDS
12	07	54	11.2?	16.79	N	95.06	W	33	N			0.7	11	OAXACA, MEXICO
12	08	22	46.7&	35.817	N	117.733	W	8	G				9	CENTRAL CALIFORNIA. <PAS-Ø>. ML 3.7 (PAS).
12	08	39	57.3	20.214	S	175.937	W	175		4.9		1.0	34	TONGA ISLANDS
12	08	41	05.9?	39.52	S	173.14	E	33	N			1.6	5	OFF W. COAST OF N. ISLAND, N.Z. ML 5.2 (WEL). Felt strongly in the Wanganui area. Also felt in the Wellington area.
12	08	47	14.3?	65.85	N	155.10	W	33	N			0.4	8	ALASKA. ML 3.6 (PNR).
12	09	25	39.5?	8.17	S	117.59	E	207		4.8		1.0	9	SUMBAWA ISLAND REGION
12	13	02	25.7*	40.296	N	25.355	E	10	G			1.3	9	AEGEAN SEA
12	16	53	32.9?	22.22	N	121.42	E	33	N			0.5	5	TAIWAN REGION
12	17	18	17.0*	23.920	N	122.627	E	10	G	4.1		1.2	14	TAIWAN REGION
12	17	29	53.9*	38.660	N	29.519	E	10	G			0.9	6	TURKEY
12	17	32	31.9&	33.817	N	117.733	W	9	G				7	CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS).
12	22	01	06.1	24.476	N	123.298	E	74				0.8	15	SOUTHWESTERN RYUKYU ISLANDS. Felt on Ishigaki-shima.
12	23	49	13.5*	45.113	N	147.215	E	33	N	4.9		0.2	9	KURIL ISLANDS
13	00	20	00.6*	31.110	S	178.010	W	86		5.1		1.0	13	KERMADEC ISLANDS REGION
13	00	52	55.3	23.758	S	69.186	W	77		4.2		1.4	9	NORTHERN CHILE
13	03	51	29.7	39.141	N	41.950	E	33	N	4.7	3.9	1.2	44	TURKEY
13	07	14	35.9*	5.623	S	145.941	E	10	G			0.8	7	EAST PAPUA NEW GUINEA REGION
13	10	51	49.9?	34.17	S	72.11	W	33	N			0.2	7	NEAR COAST OF CENTRAL CHILE
13	11	19	12.4	31.980	N	128.251	E	352		3.9		0.9	16	SOUTH OF HONSHU, JAPAN
13	11	42	02.8	43.181	N	17.806	E	10	G			1.0	17	YUGOSLAVIA. ML 4.1 (TRI), 3.8 (AQU). Felt.
13	12	39	55.9*	42.927	N	23.882	E	10	G			1.5	6	BULGARIA
13	12	51	00.6*	15.882	N	98.376	W	33	N	4.4		1.2	22	OFF COAST OF GUERRERO, MEXICO
13	13	38	40.7*	39.503	N	73.904	E	45		4.4		1.4	9	TAJIK-SINKIANG BORDER REGION
13	14	00	49.5*	23.912	N	122.348	E	33	N			1.1	9	TAIWAN REGION
13	16	17	11.4I	33.106	S	70.496	W	89				0.2	5	CHILE-ARGENTINA BORDER REGION
13	16	52	15.9?	34.36	S	178.95	E	238		4.6		1.2	8	SOUTH OF KERMADEC ISLANDS
13	17	07	54.8*	13.609	S	66.334	E	10	G	4.9		1.3	9	MID-INDIAN RISE
13	17	25	01.7	7.051	S	129.310	E	164		5.2		1.2	49	BANDA SEA
13	17	42	09.2*	1.982	S	99.433	E	33	N	3.9		0.2	6	SOUTHERN SUMATERA
13	18	52	50.1	13.884	N	124.367	E	54		4.4	3.8	1.4	22	LUZON, PHILIPPINE ISLANDS
13	20	37	39.0*	23.898	N	122.619	E	6				0.5	8	TAIWAN REGION
13	20	41	28.8?	42.88	N	20.89	E	10	G			1.5	5	YUGOSLAVIA. ML 3.4 (TTG), 3.1 (TIR).
13	20	46	41.8*	11.320	S	119.202	E	33	N	4.6		1.4	19	SOUTH OF SUMBA ISLAND
13	20	48	45.0*	4.489	S	153.359	E	80		4.8		1.1	15	NEW IRELAND REGION. Felt (II) at Rabaul, New Britain.
13	20	57	46.5*	36.122	N	139.826	E	33	N			1.0	7	HONSHU, JAPAN
13	21	02	20.1*	22.043	S	171.523	E	122		4.5		1.2	17	LOYALTY ISLANDS REGION
13	23	22	25.3	26.362	S	27.337	E	5	G	4.5		1.0	13	REPUBLIC OF SOUTH AFRICA
14	00	40	45.8?	39.16	N	29.31	E	10	G			0.9	5	TURKEY
14	00	51	32.3&	34.200	N	118.650	W	2	G				4	SOUTHERN CALIFORNIA. <PAS-P>. ML 2.2 (PAS). Felt at Canoga Park.
14	02	59	11.3*	40.045	N	26.130	E	10	G			1.7	6	TURKEY
14	03	09	00.4	22.829	N	121.528	E	10	G	3.6		0.5	10	TAIWAN REGION
14	03	27	36.0?	40.49	N	26.24	E	10	G			1.7	5	TURKEY
14	03	56	52.3*	33.355	S	71.104	W	33	N			0.4	8	NEAR COAST OF CENTRAL CHILE
14	04	10	24.3&	42.590	N	111.431	W	7	G	4.6			47	EASTERN IDAHO. <SLC>. ML 4.7 (SLC). Felt (V) at Conda, Georgetown, Soda Springs, Geneva and Montpelier. Felt (IV) at Bloomington, Clifton, Lava Hot Springs, Dingle, Wounan, Grace, Ovid, Paris, Pocatello, Thatcher and Wayan.
14	04	22	10.2?	16.69	N	99.93	W	33	N			0.4	5	NEAR COAST OF GUERRERO, MEXICO
14	04	47	12.2	60.482	N	144.736	W	15		4.3	4.0	0.8	19	SOUTHERN ALASKA. ML 4.1 (PNR).
14	04	49	37.9	31.954	S	69.124	W	133				0.8	11	SAN JUAN PROVINCE, ARGENTINA
14	05	56	30.3	31.361	N	130.590	E	168		4.0		0.8	20	KYUSHU, JAPAN
14	06	28	46.7&	42.582	N	111.426	W	7	G				14	EASTERN IDAHO. <SLC>. ML 3.9 (SLC).
14	07	33	01.0&	42.614	N	111.442	W	7	G				8	EASTERN IDAHO. <SLC>. ML 3.3 (SLC).
14	08	53	56.8*	23.920	S	179.471	E	494		4.9		1.0	16	SOUTH OF FIJI ISLANDS
14	10	40	15.4&	42.581	N	111.398	W	7	G				11	EASTERN IDAHO. <SLC>. ML 3.6 (SLC).
14	10	56	30.8&	42.568	N	111.422	W	7	G				10	EASTERN IDAHO. <SLC>. ML 3.6 (SLC).
14	11	03	55.0&	42.584	N	111.430	W	7	G				9	EASTERN IDAHO. <SLC>. ML 3.6 (SLC).
14	11	09	29.5&	42.600	N	111.440	W	7	G				15	EASTERN IDAHO. <SLC>. ML 4.1 (SLC).
14	12	21	42.9&	42.585	N	111.426	W	7	G				5	EASTERN IDAHO. <SLC>. ML 3.4 (SLC).
14	12	52	46.3*	36.102	N	102.571	W	5	G			0.8	10	TEXAS PANHANDLE REGION. mbLg 3.9 (NEIS), 3.8 (TUL). Felt (III) at Hartley, Texas. Also felt (III) at Amistad and Sedan, New Mexico. Felt (II) at Dalhart and Texline, Texas.
14	13	40	23.1*	26.872	N	34.814	E	10	G	4.8		1.2	14	RED SEA
14	14	54	01.7*	2.823	N	95.350	E	33	N	4.5		1.2	16	OFF W COAST OF NORTHERN SUMATERA
14	15	05	54.5*	11.626	S	166.451	E	133		4.6		1.2	20	SANTA CRUZ ISLANDS
14	15	40	54.8?	50.36	N	18.69	E	10	G			1.6	5	POLAND. ML 3.3 (KRA).
14	16	11	31.6&	37.460	N	118.837	W	5	G				17	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.9 (BRK), 3.7 (PAS). Felt in the Mammoth Lakes, California area.
14	16	28	06.2&	37.457	N	118.823	W	2	G				16	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.3 (BRK), 3.1 (PAS).
14	19	00	45.3*	31.236	S	71.526	W	33	N			1.5	10	NEAR COAST OF CENTRAL CHILE
14	19	09	42.1*	5.809	S	152.587	E	33	N	4.0		1.2	8	NEW BRITAIN REGION
14	19	34	50.2&	37.503	N	118.835	W	5	G				17	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 4.0 (BRK), 3.9 (PAS). Felt in the Mammoth Lakes, California area.
14	20	27	10.3*	6.179	S	103.841	E	33	N	4.7		1.1	19	SOUTHWEST OF SUMATERA
14	20	32	45.0*	23.952	N	121.610	E	33	N			0.6	8	TAIWAN
14	21	40	18.2	27.300	N	139.934	E	487		5.1		0.9	113	BONIN ISLANDS REGION

CNTR: (NEW) 81014B2A DATA: GDSN ; L.P. BODY WAVES: 10S, 19C, T= 45;
CENTROID LOCATION OT 21:40:19.7 1.1; LAT 27.15N 0.10; LON 140.23E 0.15; DEP 517.1 7.4; HALF-DURATION 1.4
MT: Scale 10**23 d-cm; MRR=-7.47 0.93; MTT= 7.60 1.30; MFF=-0.13 1.11; MRT= 6.35 1.66; MRF=-1.31 1.37; MTF=-0.92 1.74
PRINCIPAL AXES: (T) VAL= 10.08; PLG=20; AZM= 8; (N) VAL= -0.21; PLG= 3; AZM= 99; (P) VAL= -9.87; PLG=70; AZM=196
BEST DOUBLE COUPLE: Mo= 1.0*10**24; NP1: STRIKE= 93; DIP=25; SLIP= -96; NP2: STRIKE=280; DIP=65; SLIP= -87

14	21	39	46.9	38.254	N	133.668	E	432		4.1		0.7	19	SEA OF JAPAN
14	23	31	40.2?	9.40	S	148.88	E	10	G	3.4		1.7	5	EAST PAPUA NEW GUINEA REGION
14	23	44	54.4&	42.596	N	111.433	W	7	G				8	EASTERN IDAHO. <SLC>. ML 3.5 (SLC).
15	00	46	04.3*	6.644	S	130.996	E	33	N	4.8		0.9	8	BANDA SEA
15	00	54	09.8	5.076	N	126.222	E	93		5.2		1.2	90	MINDANAO, PHILIPPINE ISLANDS
15	02	53	49.9	28.088	N	57.309	E	33	N	5.1		1.1	66	SOUTHERN IRAN
15	02	58	47.6	13.726	S	66.280	E	10	G	5.2	5.2	1.1	90	MID-INDIAN RISE
15	03	55	26.2*	12.108	N	121.483	E	33	N	4.1		1.5	10	MINDORO, PHILIPPINE ISLANDS
15	06	23	04.6?	88.14	N	141.04	E	33	N	4.4		0.6	5	BONIN ISLANDS REGION
15	07	07	58.8*	3.597	S	177.662	E	33	N	4.8		0.9	25	GILBERT ISLANDS REGION
15	07	23	00.0?	6.81	S	145.41	E	193		3.4		1.1	5	PAPUA NEW GUINEA
15	07	54	57.1*	13.427	S	74.353	W	26		4.4		1.4	15	PERU
15	08	02	31.5	10.452	S	161.257	E	84		4.7		1.2	13	SOLOMON ISLANDS
15	08	37	53.7*	4.667	N	31.733	E	10	G	5.1		1.1	5	SUDAN
15	09	57	20.5&	34.200	N	118.650	W	4	G				17	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.3 (PAS). Felt (V) at Simi Valley and (IV) at Canoga Park, Chatsworth, Northridge and Pacoima.
15	10	58	39.1&	32.842	N	125.821	W	5	G	5.1	4.4		86	NORTH PACIFIC OCEAN. <GS>. ML 5.7 (GS).
15	11	54	18.2*	3.798	N	86.007	W	33	N	4.5	4.1	1.0	19	OFF COAST OF CENTRAL AMERICA
15	13	13	12.0&	38.988	N	27.788	E	10	G			0.8	5	TURKEY
15	14	11	33.6?	3.83	S	177.77	E	33	N	4.7		1.2	10	GILBERT ISLANDS REGION
15	15	19	20.1	62.157	N	151.359	W	106				0.3	18	CENTRAL ALASKA
15	15	43	18.3*	38.792	N	27.672	E	10	G			1.5	8	TURKEY
15	17	30	31.6*	38.756	N	27.868	E	10	G			1.1	6	TURKEY
15	17	40	44.2*	31.858	S	68.007	W	10	G			0.7	8	SAN JUAN PROVINCE, ARGENTINA
15	19	31	29.1*	51.873	N	177.404	W	89		4.2		0.8	23	ANDREANOF ISLANDS, ALEUTIAN IS.
15	22	33	30.0*	27.193	S	176.236	W	33	N	4.7		1.4	15	KERMADEC ISLANDS REGION
15	22	58	03.8?	1.97	N	99.54	W	10	G	4.1		0.1	6	WEST OF GALAPAGOS ISLANDS
15	23	17	29.0*	41.805	N	25.323	E	10	G			1.1	6	GREECE-BULGARIA BORDER REGION
16	00	12	45.0	14.157	S	72.996	W	87	D	4.9		1.0	47	PERU
16	01	44	21.9*	43.192	N	13.467	E	10	G			1.3	20	CENTRAL ITALY
16	01	53	31.2	5.552	S	146.227	E	76		5.3		1.2	54	EAST PAPUA NEW GUINEA REGION
16	02	22	56.7*	30.326	N	79.129	E	71		4.5		1.4	12	TIBET-INDIA BORDER REGION. Widely felt in northern India and in Kashmir.
16	03	02	55.9	34.532	N	139.602	E	121		4.9		1.1	43	NEAR S. COAST OF HONSHU, JAPAN. Felt (I JMA) at Yokohama, Tateyama and Utsunomiya.
16	03	55	24.0&	45.430	N	68.810	W	1	G				6	MAINE. <WES>. mbLg 2.5 (WES).
16	05	59	57.1	46.730	N	48.197	E	0	G	5.2	3.0	1.0	139	SOUTHWESTERN USSR
16	06	04	57.2	46.748	N	48.215	E	0	G	5.2	3.0	1.0	144	SOUTHWESTERN USSR
16	06	09	57.1	46.756	N	48.270	E	0	G	5.2	3.1	1.0	143	SOUTHWESTERN USSR
16	06	14	57.3	46.743	N	48.213	E	0	G	5.4	3.1	1.0	178	SOUTHWESTERN USSR
16	06	21	33.4	28.415	S	67.461	W	155				0.9	13	LA RIOJA PROVINCE, ARGENTINA
16	06	35	53.9	14.373	N	89.354	W	33	N	4.5		0.8	18	GUATEMALA. Felt (III) at San Salvador, El Salvador.
16	07	21	15.3	5.533	S	131.191	E	48		4.8		1.3	25	BANDA SEA
16	08	02	54.8	23.345	S	171.645	E	37	D	5.0	4.2	1.3	49	LOYALTY ISLANDS REGION
16	08	12	13.3*	38.963	N	25.039	E	10	G			0.8	18	AEGEAN SEA
16	08	31	14.5*	53.685	S	3.619	W	10	G	4.8	5.0	1.3	17	SOUTH ATLANTIC RIDGE
16	08	46	55.2	36.531	N	71.264	E	221		4.6		0.9	53	AFGHANISTAN-USSR BORDER REGION
16	09	22	48.5*	60.704	N	150.647	W	33	N			1.0	10	KENAI PENINSULA, ALASKA. ML 3.0 (PMR).
16	10	39	37.0*	20.208	S	175.468	W	267		4.5		1.2	11	TONGA ISLANDS
16	11	12	15.5	16.201	S	73.776	W	34	D	5.0	4.6	1.3	36	NEAR COAST OF PERU
16	12	51	42.9&	37.472	N	118.853	W	12	G				15	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.3 (BRK), 3.4 (PAS).
16	12	56	13.6&	37.403	N	118.857	W	5	G				14	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.9 (BRK), 3.9 (PAS). Felt (IV) at Bishop, California.
16	13	53	21.5&	37.457	N	118.858	W	3	G				13	CALIFORNIA-NEVADA BORDER REGION. <BRK>. ML 3.4 (BRK), 3.5 (PAS).
16	15	28	41.2*	12.251	N	125.561	E	33	N	4.8		0.9	10	SAMAR, PHILIPPINE ISLANDS
16	16	17	13.3*	30.341	S	60.696	E	10	G	4.6		0.9	11	ATLANTIC-INDIAN RISE
16	18	57	56.1	45.620	N	26.465	E	139		4.3		0.9	31	ROMANIA
16	19	17	30.4*	39.150	N	25.870	E	10	G			1.4	11	AEGEAN SEA. ML 3.3 (ATH).
16	19	43	44.1*	13.578	N	92.152	W	33	N	4.4		0.8	12	OFF COAST OF CHIAPAS, MEXICO
16	22	05	31.0	29.200	S	70.959	W	192				0.7	14	CENTRAL CHILE
16	22	42	41.5*	71.883	N	1.793	W	10	G	4.3		1.2	6	JAN MAYEN ISLAND REGION
16	23	50	48.8*	23.681	N	122.571	E	33	N			0.5	7	TAIWAN REGION
17	04	43	36.5	43.168	N	12.532	E	10	G			1.5	21	CENTRAL ITALY. Felt in the Perugia area.
17	04	50	12.9	43.172	N	12.564	E	20		3.9		1.2	60	CENTRAL ITALY. ML 4.3 (TRI). Felt in the Perugia area.
17	04	54	34.2	43.161	N	12.561	E	10	G	4.3		1.3	58	CENTRAL ITALY. ML 4.3 (TRI). Felt in the Perugia area.
17	05	00	32.3	44.646	N	130.065	W	10	G	4.8	4.8	0.9	60	OFF COAST OF OREGON
17	06	45	37.0	43.118	N	12.585	E	14		4.1		1.1	74	CENTRAL ITALY. ML 4.6 (TRI). Felt in the Perugia area.
17	07	11	36.4	43.139	N	12.625	E	13				1.3	19	CENTRAL ITALY. ML 3.5 (TRI).
17	08	35	25.3	15.674	S	73.042	W	114	D	5.2		1.1	60	SOUTHERN PERU
17	08	52	03.8	20.799	N	102.033	E	33	N	4.7		1.2	18	SOUTHEAST ASIA
17	10	25	06.7*	10.482	S	161.442	E	75		4.5		1.3	10	SOLOMON ISLANDS
17	10	25	40.5	14.864	N	59.919	W	33	N	4.3		0.9	13	WINDWARD ISLANDS. Felt (II) on Martinique.
17	10	56	47.6	43.164	N	12.586	E	16		4.4		1.2	70	CENTRAL ITALY. ML 4.7 (TRI). Damage (VII) in the Perugia area.
17	11	05	03.3	43.149	N	12.775	E	10	G			0.8	9	CENTRAL ITALY. ML 3.2 (TRI).
17	11	17	13.5	43.151	N	12.992	E	10	G			1.3	9	CENTRAL ITALY. ML 3.1 (TRI).
17	12	41	16.3?	3.50	S	177.65	E	33	N	4.4		0.2	6	GILBERT ISLANDS REGION
17	13	50	51.7	43.184	N	12.552	E	13				1.4	12	CENTRAL ITALY
17	13	50	51.9	43.191	N	12.508	E	10	G			1.4	19	CENTRAL ITALY. ML 3.4 (TRI).
17	15	21	32.3	6.448	S	148.669	E	69		3.8		1.5	9	NEW BRITAIN REGION
17	15	48	32.6*	43.167	N	12.742	E	10	G			1.0	7	CENTRAL ITALY. ML 2.7 (TRI).
17	16	02	54.3	28.771	S	69.903	W	119				1.3	18	CHILE-ARGENTINA BORDER REGION
17	16	47	36.6	43.092	N	12.638	E	10	G			0.6	6	CENTRAL ITALY. ML 2.7 (TRI).
17	16	57	40.7*	8.411	S	31.907	E	33	N	3.9		0.6	6	LAKE TANGANYIKA REGION
17	18	12	09.0	49.632	N	155.892	E	47	D	5.5	5.0	0.9	202	KURIL ISLANDS. Felt (IV) at Severo-Kurilsk.

CMTS: (HRV) B101782A DATA: GDSN ; L.P. BODY WAVES: 11S, 30C, T= 43;
CENTROID LOCATION OT 19:12:17.0 0.6; LAT 49.39N 0.05; LON 155.80E 0.09; DEP 52.9 4.1; HALF-DURATION 1.6
MT: Scale 10**24 d-cm; MRR= 1.18 0.06; MTT=-0.31 0.07; MFF=-0.86 0.09; MRT= 0.34 0.08; MRF= 0.42 0.09; MTF=-0.63 0.08
PRINCIPAL AXES: (T) VAL= 1.29; PLG=78; AZM=315; (N) VAL= 0.10; PLG= 2; AZM=214; (P) VAL= -1.39; PLG=12; AZM=124
BEST DOUBLE COUPLE: Mo= 1.3*10**24; NP1: STRIKE=211; DIP=33; SLIP= 86; NP2: STRIKE= 36; DIP=57; SLIP= 93

17	18 50 00.3?	59.67	N	141.47	W	15	G		0.6	6	SOUTHEASTERN ALASKA. ML 3.4 (PMR).
17	19 20 26.7*	38.281	N	21.717	E	10	G	4.2	0.9	13	GREECE. ML 3.4 (ATH).
17	20 22 10.5?	41.84	N	126.56	W	10	G	3.3	1.1	8	OFF COAST OF NORTHERN CALIFORNIA
17	20 39 39.8	43.202	N	12.517	E	8			1.3	31	CENTRAL ITALY. ML 3.5 (TRI).
17	21 58 24.9*	33.951	N	62.233	E	33	N	4.6	1.5	17	NORTHWESTERN AFGHANISTAN. Minor damage at Herat.
18	01 53 30.1	27.565	S	64.737	W	111			1.5	8	SANTIAGO DEL ESTERO PROV., ARG.
18	02 45 10.2	43.197	N	12.598	E	10	G	4.3	1.1	51	CENTRAL ITALY. ML 4.2 (TRI). Damage (VIII) in the Perugia area.
18	03 44 02.3	43.107	N	12.652	E	10	G		0.8	6	CENTRAL ITALY. ML 3.2 (TRI).
18	04 16 34.7*	52.322	N	173.278	W	53	D	4.4	1.2	9	ANDREANOF ISLANDS, ALEUTIAN IS.
18	05 19 46.3*	16.166	N	122.872	E	77		4.1	0.9	6	LUZON, PHILIPPINE ISLANDS
18	07 34 22.1*	22.286	N	121.181	E	10	G		0.7	9	TAIWAN REGION
18	09 13 36.6*	15.889	N	122.896	E	33	N	4.2	1.2	6	PHILIPPINE ISLANDS REGION
18	09 46 48.9	43.644	N	26.220	E	10	G		1.3	26	BULGARIA. Felt (V) at Ruse. Also felt in the Razgrad, Veliko Turnovo, and Turgovishte regions.
18	11 26 08.06	31.350	N	115.350	W	6	G			4	BAJA CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
18	12 12 49.7	12.79*	N	143.346	E	109		4.9	1.0	31	SOUTH OF MARIANA ISLANDS
18	12 19 10.5?	65.10	N	149.33	W	15	G		1.1	5	ALASKA
18	12 56 58.4	13.847	N	90.847	W	78		5.3	1.2	84	NEAR COAST OF GUATEMALA. Felt at San Salvador, El Salvador.
18	13 14 49.3*	45.837	N	3.034	E	10	G		0.3	5	FRANCE. ML 2.1 (LDG).
18	15 29 23.8	43.133	N	12.631	E	20		4.0	1.1	56	CENTRAL ITALY. ML 4.6 (TRI). Damage (VIII) in the Perugia area.
18	19 04 39.4	43.120	N	12.541	E	10	G		1.0	5	CENTRAL ITALY. ML 2.8 (TRI).
18	20 38 54.7*	31.533	S	69.651	W	134			1.0	10	SAN JUAN PROVINCE, ARGENTINA
18	20 45 39.9	32.876	N	48.570	E	33	N	4.7	1.4	14	WESTERN IRAN. Felt in the Khorramabad area.
19	00 49 42.2&	35.517	N	119.117	W	6	G			12	CENTRAL CALIFORNIA. <PAS-P>. ML 3.6 (PAS). Felt at Bakersfield.
19	00 56 42.0*	15.492	N	121.660	E	37		4.0	0.6	5	LUZON, PHILIPPINE ISLANDS
19	01 22 53.5	43.157	N	12.673	E	10	G	4.4	1.3	66	CENTRAL ITALY. ML 4.4 (TRI). Felt (VII) at Valfabbrica.
19	03 34 32.1	17.889	S	172.888	W	53	D	5.5	-1.0	100	TONGA ISLANDS REGION

CMTS: (HRV) B101982A DATA: GDSN ; L.P. BODY WAVES: 8S, 22C, T= 45;
CENTROID LOCATION OT 3:34:39.2 0.4; LAT 17.70S 0.08; LON 173.36W 0.05; DEP 10.1 FIX; HALF-DURATION 3.0
MT: Scale 10**24 d-cm; MRR= 1.52 0.10; MTT= 0.38 0.13; MFF=-1.90 0.12; MRT=-1.13 0.32; MRF= 3.83 0.39; MTF=-0.32 0.13
PRINCIPAL AXES: (T) VAL= 4.32; PLG=54; AZM=242; (N) VAL= 0.08; PLG=11; AZM=348; (P) VAL= -4.41; PLG=33; AZM= 85
BEST DOUBLE COUPLE: Mo= 4.4*10**24; NP1: STRIKE=212; DIP=15; SLIP= 136; NP2: STRIKE=346; DIP=79; SLIP= 79

19	03 43 05.6	15.799	S	174.864	W	286	D	5.2	1.1	115	TONGA ISLANDS
19	06 00 26.2*	33.882	S	70.880	W	33	N		1.1	7	CHILE-ARGENTINA BORDER REGION
19	07 30 10.6	28.356	S	67.464	W	153			1.2	14	LA RIOJA PROVINCE, ARGENTINA
19	09 23 49.7*	32.492	S	69.971	W	33	N		0.8	6	MENDOZA PROVINCE, ARGENTINA
19	10 09 21.4*	23.939	N	121.586	E	10	G		0.6	9	TAIWAN
19	12 46 02.5	39.847	N	118.950	E	33	N	5.0	1.4	75	NORTHEASTERN CHINA. Felt strongly at Tangshan. Also felt at Beijing.
19	13 47 44.1*	11.580	S	118.176	E	33	N	4.3	1.3	11	SOUTH OF SUMBAWA ISLAND
19	13 50 30.4?	2.75	S	177.89	E	33	N	4.7	0.7	21	GILBERT ISLANDS REGION
19	14 25 23.7*	42.200	N	26.015	E	10	G		0.6	7	BULGARIA
19	14 27 45.5&	33.267	N	115.983	W	4	G			10	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
19	15 14 05.8*	43.262	N	20.552	E	10	G		0.7	11	YUGOSLAVIA. Felt (VI) in the Raska area.
19	16 19 04.9	11.360	S	163.135	E	40		5.7 5.9	1.0	197	SOLOMON ISLANDS

CMTS: (HRV) B101982B DATA: GDSN ; L.P. BODY WAVES: 13S, 33C, T= 45;
CENTROID LOCATION OT 16:19:10.7 0.3; LAT 11.37S 0.04; LON 163.15E 0.05; DEP 19.0 2.7; HALF-DURATION 3.9
MT: Scale 10**25 d-cm; MRR=-1.53 0.06; MTT= 1.20 0.08; MFF= 0.33 0.06; MRT=-0.59 0.18; MRF=-0.15 0.17; MTF= 0.96 0.06
PRINCIPAL AXES: (T) VAL= 1.92; PLG=10; AZM=148; (N) VAL= -0.27; PLG= 8; AZM=239; (P) VAL= -1.65; PLG=78; AZM= 8
BEST DOUBLE COUPLE: Mo= 1.8*10**25; NP1: STRIKE=229; DIP=36; SLIP=-103; NP2: STRIKE= 65; DIP=55; SLIP= -81

19	16 19 18.7?	42.690	N	23.900	E	10	G		1.3	11	BULGARIA
19	17 33 26.1	48.411	S	99.758	E	10	G	4.9	1.1	11	SOUTHEAST INDIAN RISE
19	18 18 45.1*	6.872	S	155.740	E	72		4.3	1.4	20	SOLOMON ISLANDS
19	18 34 57.7*	36.248	N	71.260	E	131		4.4	1.1	15	AFGHANISTAN-USSR BORDER REGION. Felt (III) at Khorog, USSR.
19	19 20 08.8	59.456	N	144.980	W	33	N	4.7	1.1	68	GULF OF ALASKA. ML 4.8 (PMR).
19	20 23 00.2	38.110	N	20.599	E	22		4.3	1.4	26	GREECE. ML 4.0 (ATH). Felt on Kefallinia.
19	21 29 48.1	9.496	S	152.297	E	33	N	4.7	1.3	27	DENTRECASTEAUX ISLANDS REGION
19	21 36 41.4	38.516	N	28.437	E	10	G		0.7	8	TURKEY
19	22 04 00.7&	37.025	N	121.735	W	11	G			17	CENTRAL CALIFORNIA. <BRK>. ML 3.7 (BRK). Felt (III) at Aromas, Aptos, Castroville, Freedom, Morgan Hill, Santa Clara and Watsonville. Also felt at Gilroy and San Martin.
19	22 28 10.3	3.075	S	129.851	E	40		5.0	1.4	40	CERAM
19	23 12 52.7*	3.048	S	129.920	E	33	N	4.7	1.2	26	CERAM
20	00 53 53.4*	44.487	N	9.451	E	10	G		1.1	11	NORTHERN ITALY
20	01 51 07.7*	11.351	S	163.111	E	91		4.3	0.4	9	SOLOMON ISLANDS
20	01 57 18.0&	44.504	N	9.522	E	10	G		1.0	9	NORTHERN ITALY
20	02 29 48.6	9.151	N	126.062	E	145		4.8	0.9	32	MINDANAO, PHILIPPINE ISLANDS
20	02 32 59.1*	43.303	N	13.020	E	10	G		1.4	5	CENTRAL ITALY. ML 2.9 (RMP).
20	03 02 23.6*	40.818	N	27.865	E	10	G		0.6	6	TURKEY
20	03 04 19.3?	23.122	N	121.931	E	10	G		0.4	7	TAIWAN
20	03 14 07.9?	12.676	S	77.089	W	33	N		0.5	5	NEAR COAST OF PERU
20	04 04 53.5&	35.733	N	117.733	W	9	G			9	CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
20	05 36 06.2	40.978	N	143.048	E	40	D	5.1 4.6	1.1	104	OFF EAST COAST OF HONSHU, JAPAN. Felt (II JMA) at Urakawa, and (I JMA) at Aomori.
20	08 33 47.6*	40.229	N	21.801	E	10	G		0.6	8	GREECE
20	09 26 47.5	22.212	S	171.127	E	114		4.0	1.2	19	LOYALTY ISLANDS REGION
20	11 23 04.0	36.596	N	141.195	E	53		4.7	0.9	33	NEAR EAST COAST OF HONSHU, JAPAN. Felt (II JMA) at Choshi and Mito; and (I JMA) at Fukushima, Utsunomiya, and Shirakawa.
20	12 10 34.3*	38.561	N	22.356	E	10	G		0.6	9	GREECE. ML 3.5 (ATH).
20	12 36 30.8*	44.568	N	4.840	E	10	G		1.2	12	FRANCE
20	12 45 24.0*	41.209	N	21.953	E	10	G		1.4	5	YUGOSLAVIA

20	13	56	14.1	36.342	N	70.119	E	222		4.0	0.9	13	HINDU KUSH REGION
20	14	12	41.1*	44.488	N	9.594	E	10	G		0.9	12	NORTHERN ITALY
20	15	10	32.6*	44.471	N	9.599	E	10	G		0.9	8	NORTHERN ITALY
20	15	20	13.1*	44.482	N	9.702	E	10	G		1.0	5	NORTHERN ITALY
20	15	47	47.7*	44.492	N	9.749	E	10	G		0.8	7	NORTHERN ITALY
20	16	26	09.1*	41.221	N	21.060	E	10	G		1.0	5	YUGOSLAVIA
20	18	15	17.6	54.031	S	6.942	E	10	G	5.4 5.4	1.2	50	BOUVET ISLAND REGION
20	18	36	03.8*	27.917	S	172.904	E	23		5.2	1.2	16	NORFOLK ISLAND REGION
20	19	23	10.0	33.613	N	140.949	E	57		4.9	1.0	65	SOUTH OF HONSHU, JAPAN. Felt (II JMA) on Hachijo-jima, (I JMA) at Tateyama.
20	19	46	04.9*	23.801	N	121.856	E	8			0.5	8	TAIWAN
20	20	01	57.2	23.825	N	121.836	E	33	D	5.4 5.9	1.2	192	TAIWAN

CMTS: (HRV) B102082A DATA: GDSN ; L.P. BODY WAVES: 10S, 27C, T= 45;
CENTROID LOCATION OT 20: 2: 2.9 0.2; LAT 23.84N 0.04; LON 122.38E 0.05; DEP 14.5 2.1; HALF-DURATION 3.4
MT: Scale 10**24 d-cm; MRR= 6.31 0.25; MTT=-2.16 0.36; MFF=-4.16 0.36; MRT= 5.14 1.43; MRF= 2.38 0.73; MTF=-2.77 0.25
PRINCIPAL AXES: (T) VAL= 8.82; PLG=66; AZM=349; (N) VAL= -0.90; PLG=13; AZM=228; (P) VAL= -7.92; PLG=20; AZM=133
BEST DOUBLE COUPLE: Mo= 8.4*10**24; NP1: STRIKE=201; DIP=27; SLIP= 60; NP2: STRIKE= 54; DIP=66; SLIP= 104

20	20	04	55.3Z	23.803	N	121.880	E	10	G		0.3	5	TAIWAN
20	20	10	22.3*	15.959	N	98.474	W	33	N	4.7	1.4	13	OFF COAST OF GUERRERO, MEXICO
20	20	17	00.5*	23.805	N	121.898	E	10	G		0.4	6	TAIWAN
20	20	35	24.4*	23.829	N	121.832	E	10	G		0.5	8	TAIWAN
20	21	18	53.5*	23.811	N	121.825	E	10	G		0.6	5	TAIWAN
20	21	23	02.4*	23.841	N	121.839	E	10	G		0.5	8	TAIWAN
20	21	37	18.4*	19.744	N	109.324	W	10	G	4.6	1.3	16	REVILLA GIGEDO ISLANDS REGION
20	23	33	40.9	36.050	N	139.930	E	33	N		1.1	7	HONSHU, JAPAN
20	23	37	08.0	27.081	S	66.502	W	204		4.3	1.3	24	CATAMARCA PROVINCE, ARGENTINA
21	00	59	06.6	36.088	N	1.351	E	10	G	4.1	1.3	35	ALGERIA
21	01	23	29.5?	11.80	N	59.14	W	33	N	4.6	1.0	12	NORTH ATLANTIC OCEAN
21	02	03	54.3*	18.233	S	168.319	E	58		3.9	1.5	10	VANUATU ISLANDS
21	05	39	44.6Z	23.816	N	121.854	E	9			0.2	5	TAIWAN
21	05	48	51.5	25.102	N	126.118	E	50		4.5	0.7	10	RYUKYU ISLANDS. Felt (I JMA) on Miyako-jima.
21	06	05	28.2	44.719	N	111.828	W	5	G		0.9	26	HEBGEN LAKE REGION. ML 4.4 (NEIS), 4.4 (MSO). Felt (IV) at Belgrade and (III) at Lima and Pony, Montana. Also felt at Livingston and Virginia City, Montana.
21	06	58	56.2	38.033	N	14.833	E	23		4.4	1.0	29	SICILY
21	09	41	24.9*	39.370	N	72.261	E	33	N	4.5	1.5	8	KIRGHIZ SSR
21	09	47	01.6	18.961	S	169.071	E	179	D	5.1	1.1	150	VANUATU ISLANDS
21	11	10	34.7	52.732	N	172.132	E	33	N	4.9	0.9	45	NEAR ISLANDS, ALEUTIAN ISLANDS
21	11	14	23.5*	36.411	N	141.361	E	52		4.5	1.5	13	NEAR EAST COAST OF HONSHU, JAPAN
21	12	15	14.2*	42.823	N	24.007	E	10	G		0.9	6	BULGARIA
21	12	48	42.2	38.038	N	14.806	E	10	G	4.1	1.4	18	SICILY
21	12	55	36.7*	43.265	N	12.789	E	10	G		0.7	8	CENTRAL ITALY. ML 3.1 (TRI).
21	13	17	43.4*	50.988	N	15.692	E	10	G		0.6	5	CZECHOSLOVAKIA
21	14	04	02.5*	40.153	N	143.949	E	33	N	4.8 4.9	1.3	31	OFF EAST COAST OF HONSHU, JAPAN
21	16	02	21.1	6.804	N	73.028	W	165		4.8	0.7	36	NORTHERN COLOMBIA. Felt in the Cucuta-Bogota-Cali region.
21	17	51	25.5?	15.67	N	98.19	W	33	N		1.5	8	OFF COAST OF GUERRERO, MEXICO
21	17	55	38.9?	9.66	S	124.55	E	88			1.2	7	TIMOR
21	18	40	50.7*	8.235	N	94.088	E	33	N	4.3	0.4	5	NICOBAR ISLANDS REGION
21	19	23	35.8&	35.733	N	117.733	W	6	G			6	CENTRAL CALIFORNIA. <PAS-P>. ML 3.3 (PAS).
21	19	58	22.1*	14.256	N	93.770	W	33	N	4.5	0.6	10	NEAR COAST OF CHIAPAS, MEXICO
21	20	52	03.0*	15.195	N	90.878	W	33	N	4.7 3.5	1.3	15	GUATEMALA
21	21	49	54.0*	34.496	N	26.772	E	33	N	4.1	0.9	14	CRETE
21	22	08	51.3	22.049	S	68.431	W	105		4.6	1.2	10	NORTHERN CHILE
21	23	13	57.4	28.481	N	52.118	E	37		4.9 3.7	1.0	101	SOUTHERN IRAN
22	01	08	30.0	6.319	S	130.463	E	120		5.3	1.2	61	BANDA SEA
22	01	55	27.8*	34.303	S	71.038	W	32			0.2	9	NEAR COAST OF CENTRAL CHILE
22	02	28	38.0	43.512	N	146.840	E	36	D	5.0	0.9	69	KURIL ISLANDS. Felt (I JMA) at Nemuro, Hokkaido.
22	02	54	41.7*	40.582	N	26.452	E	10	G		1.4	15	TURKEY
22	07	08	38.4*	25.348	S	175.667	W	33	N	4.7	1.2	7	SOUTH OF TONGA ISLANDS
22	08	20	59.6*	3.099	S	177.531	E	33	N	4.8	1.0	22	GILBERT ISLANDS REGION
22	08	50	31.0	3.440	S	177.719	E	33	N	4.9	1.0	34	GILBERT ISLANDS REGION
22	10	17	37.3	10.687	N	125.930	E	44		5.1 4.6	1.0	70	LEYTE, PHILIPPINE ISLANDS
22	11	32	45.1	40.220	N	139.306	E	19	D	4.9	1.0	45	NEAR WEST COAST OF HONSHU, JAPAN. Felt (I JMA) at Akita.
22	11	38	59.9Z	23.145	N	121.436	E	10	G		0.5	6	TAIWAN
22	12	40	04.5	13.816	S	169.203	E	33	N	4.5 4.0	1.5	19	VANUATU ISLANDS REGION
22	13	21	01.3*	10.201	S	117.670	E	33	N	3.9	1.3	12	SOUTH OF SUMBAWA ISLAND
22	13	30	34.9*	38.685	N	70.011	E	33	N	4.3 4.0	1.4	9	AFGHANISTAN-USSR BORDER REGION. Felt (III) at Garm.
22	14	01	02.9	19.937	N	109.218	W	10	G	4.9 4.9	1.4	34	REVILLA GIGEDO ISLANDS REGION. Ms 4.9 (BRK).
22	14	40	57.4?	19.43	N	109.01	W	10	G	4.9	0.8	13	REVILLA GIGEDO ISLANDS REGION
22	19	18	55.4*	32.091	S	69.000	W	33	N		1.3	13	MENDOZA PROVINCE, ARGENTINA
22	20	22	42.6*	16.346	S	168.098	E	198		5.0	1.2	15	VANUATU ISLANDS
22	21	41	25.7*	10.869	N	125.482	E	33	N	4.0	1.4	6	LEYTE, PHILIPPINE ISLANDS
23	00	08	06.5	1.909	S	126.615	E	33	N	5.4 5.0	1.4	88	MOLUCCA SEA
23	00	20	59.3Z	12.975	S	74.523	W	33	N		0.6	6	PERU
23	00	35	31.1*	30.320	S	69.722	W	243			0.5	9	CHILE-ARGENTINA BORDER REGION
23	01	18	35.9*	6.605	S	154.283	E	33	N	4.5	0.3	7	SOLOMON ISLANDS
23	05	56	41.3*	15.490	S	70.401	W	214		4.3	1.1	25	SOUTHERN PERU
23	08	08	03.1*	7.150	S	103.267	E	33	N	4.9	1.0	19	SOUTHWEST OF SUMATERA
23	08	32	13.2*	12.365	S	75.390	W	108			0.8	9	PERU
23	08	51	27.6*	62.813	N	149.434	W	78			0.2	9	CENTRAL ALASKA
23	09	26	37.8*	5.273	N	126.710	E	63		4.5	1.2	11	MINDANAO, PHILIPPINE ISLANDS
23	09	54	31.9Z	46.115	N	0.702	W	10	G		1.5	15	FRANCE. ML 3.4 (LDG).
23	10	23	35.1*	17.879	N	94.407	W	155		4.1	0.4	12	CHIAPAS, MEXICO
23	10	37	07.2*	25.970	S	175.318	W	33	N	4.7	1.3	9	SOUTH OF TONGA ISLANDS
23	11	40	57.6?	47.34	N	153.36	E	33	N	4.7	1.0	14	KURIL ISLANDS
23	11	50	21.5?	35.03	N	24.70	E	92		3.9	0.5	7	CRETE
23	12	06	58.6*	3.191	S	139.844	E	33	N	4.4	1.5	7	WEST IRIAN
23	12	28	43.5*	47.149	N	112.712	W	5	G		1.1	16	MONTANA. ML 3.6 (NEIS), 3.2 (MSO).
23	15	37	06.8*	19.778	S	69.577	W	148		4.7	0.9	5	NORTHERN CHILE
23	16	02	28.9*	20.201	S	70.496	W	33	N	4.9	1.0	15	NEAR COAST OF NORTHERN CHILE
23	16	10	31.7*	32.305	S	71.898	W	33	N		1.1	8	NEAR COAST OF CENTRAL CHILE

23	16	51	33.4*	31.220	S	68.510	W	128				1.0	15	SAN JUAN PROVINCE, ARGENTINA
23	17	29	18.7*	32.869	S	71.568	W	33	N			1.2	11	NEAR COAST OF CENTRAL CHILE
23	18	25	54.7*	42.087	N	24.829	E	10	G			1.1	18	BULGARIA. Felt (III) at Plovdiv.
23	19	05	02.5*	33.454	S	70.935	W	22				0.2	7	CHILE-ARGENTINA BORDER REGION
23	19	50	08.1*	23.964	N	122.550	E	10	G			0.3	9	TAIWAN REGION
23	20	16	55.3*	17.895	N	99.069	W	33	N			0.5	6	GUERRERO, MEXICO
23	21	03	24.9*	59.029	N	30.715	W	10	G	4.6	3.7	1.0	18	NORTH ATLANTIC OCEAN
23	21	37	56.2*	43.150	N	12.634	E	23				1.2	13	CENTRAL ITALY. ML 3.3 (TRI). Felt.
23	23	33	06.4*	25.611	S	179.505	W	409		4.2		1.2	8	SOUTH OF FIJI ISLANDS
24	01	10	25.8*	8.498	N	126.906	E	33	N	4.6		1.5	13	MINDANAO, PHILIPPINE ISLANDS
24	01	23	55.8?	15.35	N	98.58	W	33	N	3.5		0.5	5	OFF COAST OF GUERRERO, MEXICO
24	02	53	20.7*	22.803	N	120.556	E	33	N			0.2	7	TAIWAN
24	03	12	21.9*	5.898	S	146.427	E	33	N	3.2		0.6	7	EAST PAPUA NEW GUINEA REGION
24	03	47	25.8*	23.814	N	121.857	E	10	G			0.2	5	TAIWAN
24	04	12	34.4*	5.606	S	147.141	E	183		5.0		1.4	15	EAST PAPUA NEW GUINEA REGION
24	04	44	03.7*	59.398	N	144.910	W	33	N	4.0		1.1	13	GULF OF ALASKA. ML 3.8 (PNR).
24	05	10	06.9*	4.638	S	145.156	E	98		3.7		1.2	7	NEAR N COAST OF PAPUA NEW GUINEA
24	05	45	54.7*	3.268	S	177.502	E	33	N	4.6		0.6	13	GILBERT ISLANDS REGION
24	06	41	41.1*	39.207	N	22.264	E	10	G			1.6	7	GREECE. ML 3.2 (ATH).
24	07	54	25.5*	20.726	S	177.332	W	485		4.7		1.6	22	FIJI ISLANDS REGION
24	08	21	56.1*	33.083	S	179.392	W	33	N	4.5	4.9	1.5	19	SOUTH OF KERMADEC ISLANDS
24	08	55	58.5*	5.235	S	152.319	E	33	N	4.7		1.4	8	NEW BRITAIN REGION
24	08	57	47.2*	52.827	S	25.603	E	10	G	4.3		0.5	6	SOUTH OF AFRICA
24	10	43	41.1*	22.265	S	70.082	W	35	D	5.4	4.8	1.1	82	NEAR COAST OF NORTHERN CHILE. Felt (II) at Antofagasta.
24	11	34	22.0*	44.483	N	9.626	E	10	G			1.3	9	NORTHERN ITALY. ML 3.0 (LDG).
24	11	39	19.3*	8.384	N	126.876	E	33	N	4.9		1.5	5	MINDANAO, PHILIPPINE ISLANDS
24	11	40	42.7	44.497	N	9.664	E	10	G			1.1	23	NORTHERN ITALY
24	12	04	22.4	44.510	N	9.619	E	11				1.0	27	NORTHERN ITALY. ML 3.6 (FUR), 3.3 (TRI).
24	13	24	17.8	6.869	N	73.108	W	159		4.2		0.7	23	NORTHERN COLOMBIA
24	15	35	25.8	3.653	S	131.143	E	33	N	5.2		1.2	61	WEST IRIAN REGION
24	15	50	00.3	35.881	N	140.538	E	46		4.7		1.2	14	NEAR EAST COAST OF HONSHU, JAPAN
24	16	09	05.8*	3.740	S	131.167	E	33	N	4.7		1.2	26	WEST IRIAN REGION
24	16	17	35.6*	39.881	N	20.715	E	10	G	3.8		0.7	11	GREECE-ALBANIA BORDER REGION
24	16	36	33.5*	35.228	N	21.955	E	33	N	4.1		0.7	6	MEDITERRANEAN SEA. ML 4.0 (ATH).
24	17	15	50.2	29.400	N	130.646	E	50		4.6	4.0	1.4	23	RYUKYU ISLANDS
24	18	34	45.8*	36.640	N	121.240	W	5	G			0.9	13	CENTRAL CALIFORNIA. ML 3.0 (BRK).
24	19	23	19.0&	34.083	N	119.217	W	14	G				27	SOUTHERN CALIFORNIA. <PAS-P>. ML 3.7 (PAS), 3.8 (BRK). Felt (V) at Saticoy and (IV) at Oxnard. Also felt at Ventura.
24	19	47	49.4*	0.283	N	77.304	W	33	N	4.6		1.4	15	COLOMBIA-ECUADOR BORDER REGION. Felt (II) at Quito, Ecuador. Also felt at Pasto and Ipiales, Colombia.
24	19	57	49.8	44.475	N	9.627	E	10	G			1.2	17	NORTHERN ITALY
24	21	17	29.4*	79.887	N	2.146	E	10	G	4.5	4.1	0.7	24	GREENLAND SEA
24	22	06	24.4*	8.817	S	158.673	E	33	N	4.1		1.1	7	SOLOMON ISLANDS
24	22	28	22.3*	53.657	S	140.991	E	10	G	4.8	5.2	1.1	27	WEST OF MACQUARIE ISLAND
25	00	53	48.0*	42.041	N	142.649	E	61		4.4		1.3	11	HOKKAIDO, JAPAN REGION
25	02	09	41.2	44.501	N	9.560	E	10	G			0.9	12	NORTHERN ITALY. ML 3.0 (LDG).
25	02	50	28.9&	16.918	N	99.337	W	33	N			1.0	5	NEAR COAST OF GUERRERO, MEXICO
25	08	56	51.4	33.536	N	131.522	E	134		4.7		0.6	22	KYUSHU, JAPAN
25	10	19	37.2	14.420	N	90.533	W	192	D	4.6		1.0	31	GUATEMALA
25	12	30	27.4	17.391	S	174.293	W	69		4.9		1.0	25	TONGA ISLANDS
25	13	33	08.1*	14.461	N	95.776	W	33	N	4.5		1.2	13	OFF COAST OF OAXACA, MEXICO
25	13	42	12.7*	15.514	S	173.375	W	43	D	5.0		1.3	51	TONGA ISLANDS
25	13	48	09.6	56.716	N	156.632	W	66		4.8		1.1	36	ALASKA PENINSULA
25	14	26	50.2	4.733	S	152.348	E	90		5.4		1.3	35	NEW BRITAIN REGION
25	14	48	50.8*	39.542	N	82.464	E	33	N	4.7		1.4	19	SOUTHERN SINKIANG PROV., CHINA
25	14	56	31.0	18.500	N	106.012	W	33	N	5.1		1.2	52	OFF COAST OF JALISCO, MEXICO
25	15	38	07.3*	23.827	N	121.899	E	10	G			0.3	8	TAIWAN
25	15	55	18.7*	18.438	N	105.992	W	33	N	5.2	4.8	1.1	59	OFF COAST OF JALISCO, MEXICO
25	16	54	51.3	35.208	N	52.355	E	33	N	4.6	5.4	1.0	42	IRAN. Some people injured and several buildings damaged in the Garmsar area.
25	17	08	28.8	2.987	N	65.855	E	10	G	5.5	5.5	1.1	135	CARLSBERG RIDGE

CMTS: (HRV) B102582A DATA: GDSN ; L.P. BODY WAVES: 14S, 37C, T= 45;
CENTROID LOCATION OT 17: 8:36.6 0.3; LAT 2.46N 0.06; LON 65.97E 0.04; DEP 10.1 FIX; HALF-DURATION 2.8
MT: Scale 10**24 d-cm; MRR=-3.87 0.13; MTT= 2.74 0.20; MFF= 1.13 0.17; MRT= 5.70 0.58; MRF=-2.10 0.53; MTF=-2.47 0.15
PRINCIPAL AXES: (T) VAL= 7.60; PLG=28; AZM= 30; (N) VAL= -0.40; PLG= 9; AZM=295; (P) VAL= -7.20; PLG=61; AZM=189
BEST DOUBLE COUPLE: Mo= 7.4*10**24; NP1: STRIKE=142; DIP=19; SLIP= -62; NP2: STRIKE=293; DIP=73; SLIP= -99

25	19	23	50.7*	23.902	S	179.370	E	546		4.8		1.0	24	SOUTH OF FIJI ISLANDS
25	20	37	31.9&	36.333	N	120.400	W	6	G				4	CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
25	21	48	21.5*	40.156	N	25.411	E	10	G			1.2	15	AEGEAN SEA
25	22	26	04.4&	36.322	N	120.508	W	11	G	5.3	5.2		166	CENTRAL CALIFORNIA. <BRK>. ML 5.4 (BRK), 5.4 (PAS). Slight damage (VI) at Coalinga. Felt (V) at Alpaugh, Avenal, Burrel, Cantua Creek, Farmersville, Five Points, Fresno, Helm, Lemoore, Soledad, Stratford, Sultana, Tranquility, Visalia and Waukena. Felt throughout much of the San Joaquin Valley from Bakersfield to Sacramento, in the coastal areas from San Luis Obispo to San Francisco and east as far as Bishop.

CMTS: (HRV) B102582B DATA: GDSN ; L.P. BODY WAVES: 13S, 30C, T= 45;
CENTROID LOCATION OT 22:26: 9.2 0.6; LAT 36.44N 0.07; LON 120.95W 0.10; DEP 21.4 3.4; HALF-DURATION 1.8
MT: Scale 10**24 d-cm; MRR= 1.64 0.09; MTT=-0.81 0.13; MFF=-0.83 0.09; MRT= 0.05 0.31; MRF=-0.06 0.33; MTF= 0.82 0.13
PRINCIPAL AXES: (T) VAL= 1.64; PLG=89; AZM= 60; (N) VAL= 0. ; PLG= 0; AZM=315; (P) VAL= -1.64; PLG= 1; AZM=225
BEST DOUBLE COUPLE: Mo= 1.6*10**24; NP1: STRIKE=315; DIP=44; SLIP= 89; NP2: STRIKE=136; DIP=46; SLIP= 91

25	22	34	32.8&	36.317	N	120.317	W	6	G				4	CENTRAL CALIFORNIA. <PAS-P>. ML 3.4 (PAS).
25	23	12	18.2&	36.348	N	120.517	W	14	G	4.3			29	CENTRAL CALIFORNIA. <BRK>. ML 4.3 (BRK), 4.3 (PAS). Felt in the Coalinga-Hanford area.
25	23	15	54.5&	36.345	N	120.512	W	11	G				18	CENTRAL CALIFORNIA. <BRK>. ML 4.0 (BRK), 4.0 (PAS). Felt in the Coalinga-Hanford area.
25	23	35	19.9&	36.333	N	120.383	W	6	G				4	CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
25	23	41	11.4	40.598	N	21.625	E	33	N	4.4		1.4	60	GREECE. ML 4.6 (ATH). Felt in the Ptolemais area. Also felt in the Bitola-Resen area, Yugoslavia.
26	01	20	50.4*	7.616	S	128.459	E	195		4.6		1.2	7	BANDA SEA

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26   03 24 30.9  29.683 S   71.367 W   71 D  5.5        1.1  121  NEAR COAST OF CENTRAL CHILE. Felt (VII) at Vicuna and
                                                                   (IV) at La Serena and Coquimbo.
   CMTS:  (HRV) B102682A    DATA:  GDSN              ;  L.P. BODY WAVES:  13S, 34C, T= 45;
   CENTROID LOCATION    OT  3:24:34.3 0.3;  LAT 29.70S 0.03;  LON  71.33W 0.04;  DEP  56.1 4.5;        HALF-DURATION  2.4
   MT: Scale 10**24 d-cm; MRR=-1.37 0.13; MTT= 1.15 0.17; MFF= 0.22 0.22; MRT= 0.97 0.15; MRF=-4.90 0.26; MTF=-1.10 0.20
   PRINCIPAL AXES:  (T) VAL=  4.95; PLG=37; AZM= 63;  (N) VAL=  0.59; PLG=13; AZM=164;  (P) VAL= -5.54;  PLG=50; AZM=270
   BEST DOUBLE COUPLE:        Mo= 5.3*10**24;    NP1:  STRIKE=100; DIP=15; SLIP=-154;    NP2:  STRIKE=345; DIP=84; SLIP= -77
26   03 51 05.4* 44.424 N    9.205 E   10 G                1.2    7  NORTHERN ITALY. ML 2.9 (LDG).
26   04 35 58.8? 3.26  S  177.56  E   33 N  4.3           0.6    6  GILBERT ISLANDS REGION
26   05 35 49.9  29.773 N   95.171 E   33 N  4.8           1.0   43  INDIA-CHINA BORDER REGION
26   06 14 48.4* 32.170 S   72.068 W   33 N  4.7           1.1   21  OFF COAST OF CENTRAL CHILE
26   07 33 07.5* 85.981 N   84.669 E   10 G  4.6           0.9   13  NORTH OF SEVERNAYA ZEMLYA
26   08 26 29.9  44.747 N  111.749 W    5 G                0.9   28  HEBGEN LAKE REGION. ML 4.6 (NEIS), 4.3 (MSO). Felt
                                                                   (III) at Virginia City, Twin Bridges and Melrose,
                                                                   Montana.
26   10 59 56.7* 39.701 N   20.476 E   10 G                1.5    5  GREECE-ALBANIA BORDER REGION
26   12 44 21.9   7.403 S  108.744 E  153 D  5.6           1.2  190  JAVA
   CMTS:  (HRV) B102682B    DATA:  GDSN              ;  L.P. BODY WAVES:  12S, 30C, T= 45;
   CENTROID LOCATION    OT 12:44:24.5 0.5;  LAT  7.40S 0.06;  LON 109.05E 0.05;  DEP 138.4 2.2;        HALF-DURATION  1.8
   MT: Scale 10**24 d-cm; MRR= 1.78 0.10; MTT=-0.47 0.15; MFF=-1.31 0.16; MRT=-0.30 0.12; MRF= 0.03 0.12; MTF=-1.73 0.17
   PRINCIPAL AXES:  (T) VAL=  1.85; PLG=75; AZM=211;  (N) VAL=  0.82; PLG=15; AZM= 39;  (P) VAL= -2.68;  PLG= 2; AZM=308
   BEST DOUBLE COUPLE:        Mo= 2.3*10**24;    NP1:  STRIKE= 23; DIP=45; SLIP= 69;    NP2:  STRIKE=232; DIP=49; SLIP= 110
26   14 24 26.1* 41.949 N   24.215 E   10 G                0.6    8  GREECE-BULGARIA BORDER REGION
26   15 31 32.6& 47.000 N   66.600 W    5 G                       6  NEW BRUNSWICK. <OTT>. mbLg 3.6 (WES).
26   15 48 43.6& 36.317 N  120.433 W    6 G                       5  CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS), 2.6 (BRK).
26   15 58 01.5* 15.018 S   70.856 W   33 N  5.2           0.7    6  SOUTHERN PERU
26   18 17 44.2% 33.881 S   70.557 W   74                  1.0    7  CHILE-ARGENTINA BORDER REGION
26   20 36 49.6* 44.476 N    9.518 E   10 G                0.7   10  NORTHERN ITALY
26   20 42 30.1& 36.350 N  120.417 W    6 G                       4  CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS), 2.6 (BRK).
26   20 56 37.2* 44.485 N    9.276 E   10 G                1.5    5  NORTHERN ITALY. ML 2.7 (LDG).
26   22 28 51.4* 14.492 N   93.774 W   33 N  4.7 3.7      1.1   38  NEAR COAST OF CHIAPAS, MEXICO
26   23 32 52.9* 2.664  S  138.611 E   33 N  4.4           1.4    8  WEST IRIAN
27   00 04 18.2% 13.299 S   75.039 W   33 N                0.6    5  PERU
27   01 27 22.1* 36.3&6 N   71.074 E  108     4.3          0.9   10  AFGHANISTAN-USSR BORDER REGION
27   01 46 46.6* 3.412 S   177.617 E   32 D  4.7           1.3   21  GILBERT ISLANDS REGION
27   01 51 47.1* 59.296 S   25.999 W   33 N  5.0           1.5   13  SOUTH SANDWICH ISLANDS REGION
27   05 44 32.5? 14.51  N   96.80  W   33 N                0.5    4  OFF COAST OF OAXACA, MEXICO
27   05 45 30.3* 46.544 N  152.754 E   33 N  4.9           0.9   50  KURIL ISLANDS
27   07 41 03.3  13.492 N   89.326 W   72     5.1          1.4  156  EL SALVADOR. Felt (V) at San Salvador.
27   10 09 03.3* 13.458 N   89.451 W   72     4.7          1.3   43  EL SALVADOR. Felt (IV) at San Salvador.
27   10 21 41.7& 33.883 N  118.217 W   15 G                      11  SOUTHERN CALIFORNIA. <PAS-P>. ML 2.9 (PAS). Felt at
                                                                   Gardena and Huntington Park.
27   10 30 13.2  20.483 N  121.523 E   40     5.5 4.5      1.2  174  PHILIPPINE ISLANDS REGION. Felt (IV RF) at Basco and
                                                                   (III RF) at Pasuquin.
   CMTS:  (HRV) B102782A    DATA:  GDSN              ;  L.P. BODY WAVES:  12S, 31C, T= 45;
   CENTROID LOCATION    OT 10:30:19.6 0.4;  LAT 20.17N 0.04;  LON 121.24E 0.06;  DEP  56.7 3.6;        HALF-DURATION  1.9
   MT: Scale 10**24 d-cm; MRR=-0.30 0.06; MTT= 2.44 0.12; MFF=-2.14 0.12; MRT= 0.08 0.11; MRF=-0.53 0.09; MTF=-0.89 0.09
   PRINCIPAL AXES:  (T) VAL=  2.62; PLG= 3; AZM= 11;  (N) VAL= -0.19; PLG=76; AZM=115;  (P) VAL= -2.43;  PLG=13; AZM=280
   BEST DOUBLE COUPLE:        Mo= 2.5*10**24;    NP1:  STRIKE= 56; DIP=78; SLIP=-173;    NP2:  STRIKE=325; DIP=83; SLIP= -12
27   11 51 09.2* 13.018 N   89.553 W   76     4.6          1.0   18  EL SALVADOR. Felt (III) at San Salvador.
27   13 33 44.0? 32.68  N  126.02  W   10 G                0.8   16  NORTH PACIFIC OCEAN. This event, magnitude about 4.0,
                                                                   is an aftershock of the earthquake that occurred on
                                                                   October 15, 1982.
27   13 39 44.9* 19.689 S  175.696 W  271     4.7          1.3   14  TONGA ISLANDS
27   14 32 24.7  52.339 N  168.428 W   33 N  5.1           1.0  104  FOX ISLANDS, ALEUTIAN ISLANDS
27   14 37 06.4* 29.339 S   75.248 W   33 N                0.9   11  OFF COAST OF CENTRAL CHILE
27   15 36 36.0  23.951 N  106.049 E   33 N  5.2 5.1      1.2   96  EASTERN CHINA. Felt in northern Vietnam.
27   16 14 04.7  62.864 N  150.832 W  112                  0.5   15  CENTRAL ALASKA
27   16 42 44.4* 23.744 N  121.855 E   10 G                0.2    8  TAIWAN
27   17 49 13.6  36.383 N   69.413 E   40     4.8          1.4   26  HINDU KUSH REGION
27   20 27 24.5& 42.710 N   70.060 W    0 G                       11  SOUTHERN NEW ENGLAND. <WES>. mbLg 2.8 (WES).
27   21 15 58.9* 31.404 S  179.128 W   33 N  5.1           0.8   11  KERMADEC ISLANDS REGION
27   21 29 39.0& 36.333 N  120.383 W    6 G                       6  CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS), 2.7 ML
                                                                   (BRK).
27   23 27 33.3* 32.868 S   72.102 W   33 N                0.7   11  OFF COAST OF CENTRAL CHILE
28   02 20 07.9& 42.760 N   70.150 W   12 G                      10  SOUTHERN NEW ENGLAND. <WES>. mbLg 2.2 (WES).
28   03 28 22.8* 8.267  S  115.868 E   33 N  4.4 3.5      1.4   14  BALI ISLAND REGION. Felt on Bali Island.
28   03 28 39.1  37.160 N  134.932 E  366     4.8          0.7  122  SEA OF JAPAN
28   04 19 09.4   8.208 S  147.707 E   59     4.1          1.3   14  EAST PAPUA NEW GUINEA REGION
28   08 04 15.4* 31.490 S   72.046 W   33 N                0.7   13  OFF COAST OF CENTRAL CHILE
28   09 01 43.2* 3.255  S  177.617 E   33 N  4.7           0.8   10  GILBERT ISLANDS REGION
28   09 07 51.8% 32.236 S   72.567 W   33 N                1.4    7  OFF COAST OF CENTRAL CHILE
28   09 40 36.3& 33.833 N  117.100 W   17 G                      9  SOUTHERN CALIFORNIA. <PAS-P>. ML 2.9 (PAS). Felt at
                                                                   Riverside.
28   09 53 40.6% 16.261 N   60.628 W   33 N                0.4    5  LEEWARD ISLANDS
28   10 08 00.7* 32.204 S   71.920 W   33 N                0.9   12  NEAR COAST OF CENTRAL CHILE
28   11 23 43.1* 39.935 N   24.339 E   10 G                0.4    9  AEGEAN SEA. ML 3.5 (ATH).
28   12 29 01.5* 14.155 N   91.601 W   44     5.0 4.2      1.0   74  GUATEMALA
28   12 45 19.7* 13.983 N   91.825 W   50     5.0 4.2      1.5   59  NEAR COAST OF GUATEMALA
28   12 55 07.9* 3.689  S  130.353 E   33 N                1.5   19  CERAM
28   14 41 26.5  52.160 N  171.252 W   33 N  4.9           0.9   76  FOX ISLANDS, ALEUTIAN ISLANDS. ML 4.6 (PMR).
28   15 30 14.7   7.993 S  109.093 E   96     5.2          1.3   49  JAVA
28   16 20 20.1? 18.14  S  172.47  W   33 N  4.3           1.6    5  TONGA ISLANDS REGION
28   18 30 30.7  46.307 N  144.100 E  307     4.4          1.0   44  SEA OF OKHOTSK
28   19 46 48.8* 31.965 S   68.921 W   33 N                0.6    6  SAN JUAN PROVINCE, ARGENTINA
28   21 24 06.1* 7.469  S  125.783 E   33 N  4.7 3.4      1.3   16  BANDA SEA
28   21 55 19.3* 9.600  S  161.581 E   99                  1.6   13  SOLOMON ISLANDS
29   00 20 37.7* 36.208 N    1.514 E   10 G                0.7    9  ALGERIA
29   00 42 16.2   4.506 S  152.453 E  105     5.4          0.9   78  NEW BRITAIN REGION
29   00 47 20.0* 17.297 N   95.090 W  158     5.0          1.3   19  OAXACA, MEXICO
29   00 52 11.0& 36.333 N  120.433 W    6 G                      16  CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS), 3.1 (BRK).
29   01 04 34.4  16.780 S  173.786 W   33 N  5.2           1.3   63  TONGA ISLANDS. Felt (II) at Apia, Western Samoa.
29   01 04 42.4  16.582 S  173.703 W   45     5.2          0.7   35  TONGA ISLANDS. Felt (II) at Apia, Western Samoa.
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29   01 43 07.0  23.690 N  122.045 E   10 G  4.6          1.0   20  TAIWAN REGION
29   02 12 23.2* 16.011 N   98.330 W   33 N  4.4          1.1   18  NEAR COAST OF GUERRERO, MEXICO
29   03 47 23.2   6.049 S  130.452 E  166    5.6          1.3  103  BANDA SEA
   CMTS:  (HRV) B102982A   DATA:  GDSN              ; L.P. BODY WAVES:  12S, 28C, T= 45;
   CENTROID LOCATION    OT  3:47:22.8 0.6;  LAT  6.07S 0.05;  LON 130.18E 0.07;  DEP 146.6 2.5;        HALF-DURATION  1.6
   MT: Scale 10**24 d-cm; MRR= 0.39 0.08; MTT=-1.23 0.09; MFF= 0.83 0.11; MRT= 0.03 0.07; MRF= 1.04 0.08; MTF= 0.16 0.11
   PRINCIPAL AXES:  (T) VAL=  1.68; PLG=39; AZM=274;  (N) VAL= -0.44; PLG=51; AZM= 99;  (P) VAL= -1.24;  PLG= 2; AZM=  6
   BEST DOUBLE COUPLE:       Mo= 1.5*10**24;    NP1:  STRIKE= 57; DIP=62; SLIP=  28;    NP2:  STRIKE=313; DIP=65; SLIP= 149
29   07 33 29.9? 15.24   N   99.67  W   33 N  4.1          1.5   11  OFF COAST OF GUERRERO, MEXICO
29   08 13 06.1   8.091 S  107.185 E   33 N  5.2 4.8       1.4  112  JAVA
29   08 17 36.4  42.069 N   19.202 E   12     4.4          1.3   60  YUGOSLAVIA. ML 4.5 (TRI). Felt in the Titograd area.
29   09 20 20.6& 35.717 N  117.733 W    6 G                       11  CENTRAL CALIFORNIA. <PAS-P>. ML 3.2 (PAS).
29   09 28 25.6% 16.107 N   99.173 W   33 N                  1.2    6  NEAR COAST OF GUERRERO, MEXICO
29   10 43 11.6* 17.394 N  101.42? W   33 N  4.4          1.1   32  NEAR COAST OF GUERRERO, MEXICO
29   12 52 10.5* 15.808 N   98.423 W   33 N  3.8          1.2   14  OFF COAST OF GUERRERO, MEXICO
29   13 36 16.0* 9.137  N  125.870 E   33 N  4.2          1.4   12  MINDANAO, PHILIPPINE ISLANDS
29   14 00 46.8* 6.197  S  131.634 E   33 N  4.9          0.8    6  TANIMBAR ISLANDS REGION
29   14 43 51.5% 15.230 N   60.931 W   90                   0.2    8  LEEWARD ISLANDS
29   15 04 42.8% 32.317 S   71.679 W   33 N                0.5    7  NEAR COAST OF CENTRAL CHILE
29   15 12 46.2* 15.436 N   94.785 W   33 N                0.7    9  NEAR COAST OF OAXACA, MEXICO
29   15 33 40.0   4.227 S   80.650 W   35 D  5.3 4.1       0.8  103  PERU-ECUADOR BORDER REGION
29   16 56 00.2* 23.855 N  122.495 E   10 G                0.6    8  TAIWAN REGION
29   17 32 18.9* 23.304 N  122.421 E   10 G                0.4    6  TAIWAN REGION
29   17 53 10.9? 18.18   N  105.72  W   33 N  4.2          1.1    9  OFF COAST OF JALISCO, MEXICO
29   19 09 09.2* 5.641  S  145.648 E   51     3.7          0.8   16  EAST PAPUA NEW GUINEA REGION
30   02 00 06.0* 4.727  N   82.800 W   10 G  4.6          1.4   15  SOUTH OF PANAMA
30   04 36 46.2  27.764 N   34.002 E   10 G  4.5          1.4   11  RED SEA
30   05 24 55.6* 22.659 S  170.615 E   33 N                1.2   20  LOYALTY ISLANDS REGION
30   07 07 53.6  39.592 S  174.094 E   246    5.0          1.1   30  NORTH ISLAND, NEW ZEALAND. Felt in the
                                                                     Wanganui-Wellington area.
30   08 19 51.8& 35.733 N  117.767 W    8 G                       6  CENTRAL CALIFORNIA. <PAS-P>. ML 3.0 (PAS).
30   08 33 44.6* 34.587 N   81.230 E   33 N  4.3          0.5   10  TIBET
30   09 53 13.4? 51.66   N  178.93  W   80                   0.6    9  ANDREANOF ISLANDS, ALEUTIAN IS.
30   10 57 42.2* 18.626 N  105.647 W   33 N  4.2          1.2   22  OFF COAST OF JALISCO, MEXICO
30   11 13 17.5* 1.632  N  127.105 E   99     4.8          0.9   12  HALMAHERA
30   11 41 46.9* 31.884 S   72.845 W   33 N                1.1   10  OFF COAST OF CENTRAL CHILE
30   14 02 05.6* 49.906 N   18.496 E   10 G                0.9   10  CZECHOSLOVAKIA. ML 4.2 (GRF).
30   14 43 13.3& 35.733 N  117.750 W    7 G                       12  CENTRAL CALIFORNIA. <PAS-P>. ML 3.1 (PAS), 3.5 (BRK).
30   16 07 01.8* 13.984 N   90.582 W   86     4.3          0.9   12  NEAR COAST OF GUATEMALA
30   16 25 10.3* 51.510 N  157.366 E   33 N  4.9          1.0   15  NEAR EAST COAST OF KAMCHATKA
30   16 29 59.8  12.194 S  167.463 E   325    5.1          0.9  104  SANTA CRUZ ISLANDS
   CMTS:  (HRV) B103082A   DATA:  GDSN              ; L.P. BODY WAVES:  12S, 25C, T= 45;
   CENTROID LOCATION    OT 16:30: 4.8 1.4;  LAT 12.04S 0.13;  LON 167.27E 0.11;  DEP 323.8 7.4;        HALF-DURATION  1.2
   MT: Scale 10**23 d-cm; MRR= 3.61 0.58; MTT= 0.63 1.22; MFF=-4.25 1.01; MRT= 1.06 1.49; MRF=-5.69 1.10; MTF=-0.48 0.92
   PRINCIPAL AXES:  (T) VAL=  6.82; PLG=60; AZM= 68;  (N) VAL=  0.42; PLG= 9; AZM=175;  (P) VAL= -7.24;  PLG=28; AZM=270
   BEST DOUBLE COUPLE:       Mo= 7.0*10**23;    NP1:  STRIKE= 23; DIP=19; SLIP= 120;    NP2:  STRIKE=172; DIP=73; SLIP=  80
30   21 23 01.2* 36.043 N   21.374 E   33 N  4.3          0.6    7  SOUTHERN GREECE. ML 4.0 (ATH).
30   21 55 58.7* 5.069  S  132.165 E   33 N  3.4          1.6    5  AROE ISLANDS REGION
30   22 22 33.2% 45.584 N    2.891 E   10 G                0.3    7  FRANCE. ML 2.3 (LDG).
31   00 36 58.9* 11.659 S  117.693 E   33 N  5.1          1.3   13  SOUTH OF SUMBAWA ISLAND
31   00 48 27.3  18.892 S  169.273 E  218    4.7          1.3   46  VANUATU ISLANDS
31   01 30 40.9   6.562 S  130.422 E   92     5.0          1.4   16  BANDA SEA
31   02 13 14.7  30.845 S   68.672 W  123    4.2          1.0   22  SAN JUAN PROVINCE, ARGENTINA. Felt at San Juan.
   CMTS:  (HRV) B103182A   DATA:  GDSN              ; L.P. BODY WAVES:  10S, 26C, T= 45;
   CENTROID LOCATION    OT  2:48:16.9 0.5;  LAT  1.64N 0.06;  LON  96.34E 0.07;  DEP  19.2 4.2;        HALF-DURATION  1.6
   MT: Scale 10**24 d-cm; MRR=-0.81 0.05; MTT=-0.25 0.09; MFF= 1.05 0.08; MRT= 0.16 0.13; MRF= 0.40 0.15; MTF=-0.89 0.05
   PRINCIPAL AXES:  (T) VAL=  1.54; PLG= 7; AZM=244;  (N) VAL= -0.45; PLG=38; AZM=340;  (P) VAL= -1.10;  PLG=51; AZM=145
   BEST DOUBLE COUPLE:       Mo= 1.3*10**24;    NP1:  STRIKE=299; DIP=51; SLIP=-144;    NP2:  STRIKE=184; DIP=63; SLIP= -46
31   03 07 39.4* 32.658 N   84.906 W    5 G                  0.8   15  GEORGIA. mbLg 2.9 (NEIS). Felt (V) at Ellerslie and
                                                                     Midland. Felt (IV) at Catarla, Columbus, Buena Vista
                                                                     and Upatoi. Also felt (IV) at Phenix City, Alabama.
                                                                     Believed to be the first instrumentally located
                                                                     hypocenter in this area.
31   03 12 15.6* 32.655 N   84.867 W    5 G                  0.8   16  GEORGIA. mbLg 3.1 (NEIS). Felt in Harris and Muscogee
                                                                     counties. Also felt in the Phenix City, Alabama area.
31   04 07 32.4* 34.081 S   69.305 W   33 N                  1.2    7  CHILE-ARGENTINA BORDER REGION
31   06 03 04.5  14.086 N   90.274 W   98 D  5.3            1.2  235  GUATEMALA. Felt (VI) at Guatemala City.
   CMTS:  (HRV) B103182B   DATA:  GDSN              ; L.P. BODY WAVES:  18S, 46C, T= 45;
   CENTROID LOCATION    OT  6: 3: 9.5 0.2;  LAT 13.74N 0.02;  LON  90.46W 0.02;  DEP  89.7 2.5;        HALF-DURATION  4.5
   MT: Scale 10**25 d-cm; MRR= 0.10 0.04; MTT= 0.59 0.09; MFF=-0.69 0.10; MRT= 2.00 0.04; MRF=-1.37 0.04; MTF=-0.06 0.05
   PRINCIPAL AXES:  (T) VAL=  2.65; PLG=43; AZM= 23;  (N) VAL= -0.32; PLG=14; AZM=127;  (P) VAL= -2.33;  PLG=44; AZM=230
   BEST DOUBLE COUPLE:       Mo= 2.5*10**25;    NP1:  STRIKE= 39; DIP=14; SLIP=-178;    NP2:  STRIKE=307; DIP=90; SLIP= -76
31   06 43 20.0* 26.334 S   27.196 E    5 G                  1.4    9  REPUBLIC OF SOUTH AFRICA
31   06 55 11.4* 27.395 S   70.923 W   33 N                  1.1   11  NEAR COAST OF NORTHERN CHILE
31   08 59 37.5* 6.487  S  147.527 E   42     4.0          1.1   10  EAST PAPUA NEW GUINEA REGION
31   09 29 00.8% 33.619 S   70.620 W   33 N                  0.2    5  CHILE-ARGENTINA BORDER REGION
31   10 14 27.9* 31.911 S   72.250 W   33 N  4.5          1.3   22  OFF COAST OF CENTRAL CHILE
31   11 53 32.6* 15.453 S  167.726 E   33 N  4.3          1.1   11  VANUATU ISLANDS
31   13 22 32.9? 33.84   S   71.41  W   33 N                1.7    5  NEAR COAST OF CENTRAL CHILE
31   15 06 29.1* 15.146 S  174.798 W  259     4.3          1.4   13  TONGA ISLANDS
31   17 44 04.1* 24.756 N  122.124 E   10 G                0.4    6  TAIWAN REGION
31   18 23 58.2   1.150 N   99.081 E  132     4.5          0.9   17  NORTHERN SUMATERA
31   18 40 52.6  35.847 N   82.494 E   33 N  5.2 5.0       1.0  105  TIBET
31   19 12 46.3* 9.673  N  126.089 E   69     4.5          1.1    9  MINDANAO, PHILIPPINE ISLANDS
31   19 56 13.7* 24.858 N  122.300 E   13     4.7          1.3   35  TAIWAN REGION
31   20 46 35.8* 24.798 N  122.391 E   10 G  4.4          0.6    9  TAIWAN REGION
31   22 17 38.0* 6.028  S  105.512 E   69     4.9          1.1   32  SUNDA STRAIT
31   22 22 08.0* 39.313 N   23.014 E   10 G                1.3   11  AEGEAN SEA. ML 3.1 (ATH).
31   22 34 24.1% 31.795 S   71.069 W   33 N                0.6    7  NEAR COAST OF CENTRAL CHILE
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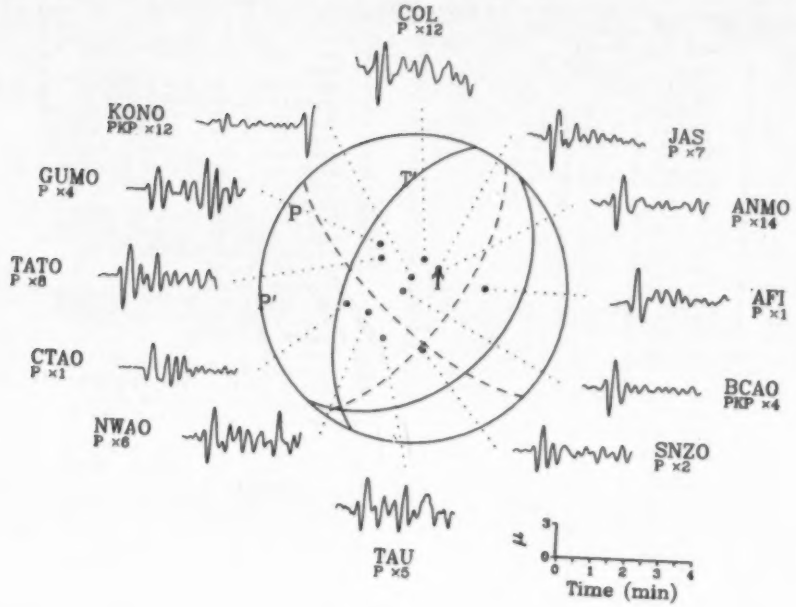
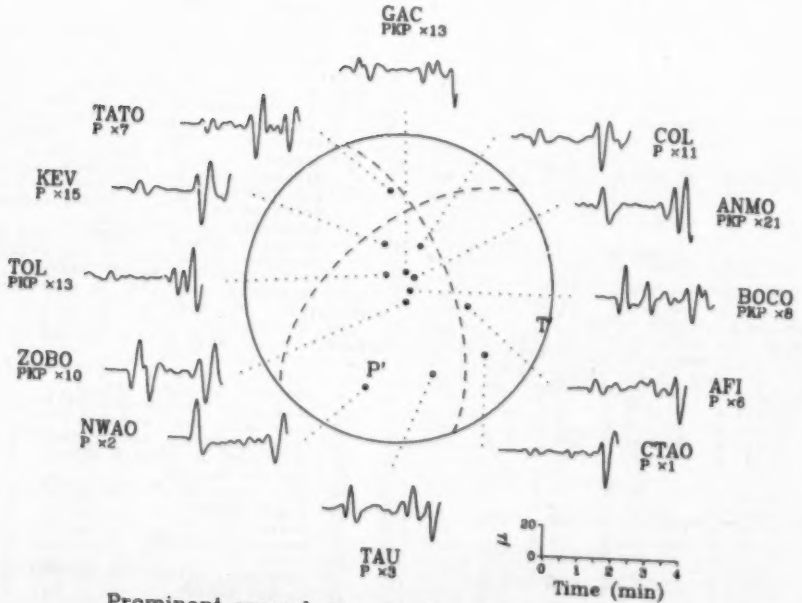
Compiled by W. L. Irby, W. L. Jacobs, J. H. Minsch, R. E. Needham, W. J. Person, B. W. Presgrave and W. H. Schmieder.

05 October 1982 09:14:32.51
Vanuatu Islands



07 October 1982 07:15:56.63
Banda Sea



Prominant secondary arrivals are one or more of pP, sP, PcP, or PP depending on distance.